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DECEMBER, 1917

SUBSCRIPTION RATES.—One year, $1.00; two years, $1.75; three years, $2.50; five years, $4.00. Canadian subscription, 30 cents additional per year, and foreign subscription, 60 cents additional. **DISCONTINUANCES.**—On and after March 1, 1917, all subscriptions, not paid in advance, or specifically ordered by the subscriber to be continued, will be stopped on expiration. No subscriber will be run into debt by us for this journal. **CHANGE OF ADDRESS.**—Give your old address as well as the new and write the name that appears on the paper. **REMITTANCE.**—Should be sent by postoffice money order, bank draft, express money order or check. **CONTRIBUTIONS** to GLEANINGS columns solicited; stamps should be enclosed to insure return to author of manuscript if not printed. **ADVERTISING RATES.**—Advertising rates and conditions will be sent on request. Results from advertising in this journal are remarkably satisfactory. **ADVERTISERS' RELIABILITY.**—The publishers use utmost diligence to establish in advance the reliability of every advertiser using space in this journal.

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Editorial Staff

E. R. ROOT, Editor — A. I. ROOT, Editor Home Dept. — H. H. ROOT, Managing Editor — J. T. CALVERT, Business Manager

HONEY MARKETS

There is little new to be said as to the honey market. Prices are higher and honey is scarcer. Apparently, there is very little of the 1917 crop remaining in the hands of the honey-producer. Sugar is scarcer than a month ago, and the abnormally high prices at which it is sold in the war countries of Europe may advance honey prices to an even still higher level than at present.

The monthly crop report issued by the U. S. Dept. of Agriculture for November gives the average yield per colony in the United States as 40.3 lbs. per colony, which is about 25 per cent less than last year, and 5 per cent less than in 1915. This report calls attention to the very large increase in local consumption of honey, due to sugar shortage. Only 29 per cent of the honey crop of 1917 is being sent to "outside markets," as against 36 per cent so sent last year. This fact, together with the decreased yield, results in only about 60 per cent as much honey going into the main trade channels as was so handled last year. So this condition has made for much higher honey prices generally.

Buyers report that there is little comb honey in sight, and only a very little extracted here and there still remaining in the hands of beekeepers.

What we said about the price of honey last month remains true, namely: "The price of honey is what the owner can get." We might add that that price is a very high one and likely to remain so.

Below we quote prices of various big city dealers. We have not received the U. S. Gov't honey-market report for any date in November, and so are unable to give our readers the Government's market figures.

General Quotations of Wholesalers.

CHICAGO.—The movement in honey of all kinds has been quite free during the past month, especially in extracted, for which there has been an active foreign demand, and as high as 16½ cts. per lb. has been paid, which has stiffened the market up so that for the best grades of white clover and similar goods 17 cts. is obtained. Ambers sell at from 1 to 3 cts. less according to flavor and quality. White comb, A1 to fancy, brings 22 to 23. Amber grades range from 1 to 3 cts. less. Beeswax is steady at 35 to 37 cts. per lb. R. A. Burnett & Co.
Chicago, Nov. 17.

SAN FRANCISCO.—With reference to quotations on honey from jobbers to retailers, we will state that the market is higher all around on all honey. We cannot tell you what the jobber is charging the retailer. We understand comb honey is being jobbed locally from $4.00 to $4.25. Extracted honey is closely cleaned up, white selling up as high as 16 cts. per lb., and dark ambers up to 14, while some dark is bringing only 11 to 12. Export buying has closely cleaned up most lots, and this is the principal source of outlet at present for lower grades of honey.
San Francisco, Nov. 12. Leutzinger & Lane.

LOS ANGELES.—Very little comb honey is being offered. Practically no extracted honey is left in the hands of producers. We quote comb honey, fancy, per case, $5.00; No. 1, $4.85; No. 2, $4.50. Extracted honey, white, per lb., brings 16; light amber, in cans, 14; amber, in cans, 11 to 13c. Clean average yellow beeswax brings 50 cts.
Los Angeles, Cal., Nov. 14.

LIVERPOOL.—During the past month the demand for honey on this market has been active, with the result that prices have advanced two cents per lb. All the foreign honey that comes to Europe from various parts of the world is extracted honey, the only comb honey being of local production, which is more or less sold by retail where it is produced, and consequently it is scarcely worth our while quoting it, because it could not be transported here from abroad to arrive in a satisfactory condition. As regards extracted honey, the bulk of this arrives here in barrels from 150 to 600 lbs. weight each, and the quality and condition vary. However, we think the only quotation that is of interest to readers will be the wholesale price for extracted honey of the best quality, which is to-day here about 20 to 21 cents per lb. The market is steady at this price, and we do not see any sign of decline for the present. While honey has firmed, the demand for beeswax has slackened off, buyers being scarce. Good pure quality is worth from 45 to 47 cents per lb.
Liverpool, Eng., Nov. 3. Taylor & Co.
Later, by Cable.—Best quality extracted honey 24 to 26 cents per pound. Taylor & Co.
Liverpool, Eng., Nov. 21.

DENVER.—Our present prices to retailers are as follows: Extra fancy white comb honey, per case, $5.00; No. 1 white comb honey, $4.50; No. 2 comb honey, $4.00. Extracted white honey, according to quantity, brings 16 to 18; light amber extracted, 14 to 15. For clean yellow beeswax delivered here, we are paying 38 cts. in cash and 40 in trade.
The Colorado Honey Producers' Association.
Denver, Colo., Nov. 17. Frank Rauchfuss, Mgr.

ST. LOUIS.—The demand for comb honey is very moderate, as the price seems to be too high to let it go into consumption. Supplies of comb honey are very limited. Extracted honey is in good demand, and market not overstocked. We quote comb honey, extra fancy, per case, $5.00; fancy, $4.75; No. 1, $4.25; No. 2, $3.50 to $4.00. Extracted honey, light amber, in cans, brings 15 to 16; amber, dark, in cans, 13 to 14. Clean average yellow beeswax brings 38½. R. Hartman Produce Co.
St. Louis, Nov. 16.

BOSTON.—Market is cleaning up short, both on comb and extracted. We quote comb honey, extra fancy, per case, $5.00; fancy, $4.75; No. 1, $4.50; No. 2, $4.00. Extracted honey, white, brings 18 to 20; light amber, in cans, 18; in barrels, 15.
Boston, Mass., Nov. 17. Blake-Lee Co.

CLEVELAND.—Demand is more active at the advanced prices. Receipts have been light thus far, and the supply now in market is very limited. We quote comb honey, extra fancy, per case, $5.50; fancy, $5.25; No. 1, $4.75.
Cleveland, O., Nov. 17. C. Chandler's Sons.

BUFFALO.—Receipts are light. Demand is good. Quality of stock is good. Scarcity of sugar seems to have stimulated the demand for comb and extracted honey. Stocks seem to be well cleaned up. Comb honey, extra fancy, per case, brings 22; fancy (buckwheat) 20. Extracted honey, white, brings 16 to 17; amber, in cans, 15 to 16.
Buffalo, N. Y., Nov. 16. Gleason & Lansing.

KANSAS CITY.—We are cleaned up on both comb and extracted honey. Trade is good. Dealers have light stocks on hand. We are selling best comb to grocers at $4.50 to $4.65. Extracted honey, white, brings 15; light amber, in cans, 14; amber, 12 to 13. Clean average yellow beeswax brings 35 to 40.
C. C. Clemons Produce Co.
Kansas City, Mo., Nov. 16.

SYRACUSE.—The demand for honey is about the same as last month. The price having advanced limits the sales to a degree. I have nothing to offer except to my home trade. Some grades are exhausted. Comb honey, fancy, brings per case, $4.80; No. 1, $4.50; No. 2, $4.30. Extracted honey, white, per lb., 16; light amber, in cans, 15. E. B. Ross.
Syracuse, N. Y., Nov. 16.

NEW YORK.—The market on honey is in such an irregular condition that we do not feel justified in quoting any prices, as they change from day to day.
New York, Nov. 16. Hildreth & Segelken.

PORTLAND.—Demand for comb honey is light on account of high prices. Quality is good. Extracted is in fair demand only. Quality is very good, but sales are slow at present on the high prices asked. We think stocks will be cleaned up soon. We quote comb honey, fancy, per case, $4.50; No. 1, $4.25; No. 2, $4.00. Extracted honey, white, brings 18; light amber, in cans, 17; amber, 16. No beeswax offered. Pacific Honey Co.
Portland, Ore., Nov. 12.

ARIZONA.—Honey is all sold. Market closed very strong. Clean average yellow beeswax brings 35 to 36. Wm. Lossing.
Phoenix, Ariz., Nov. 16.

HAMILTON.—Honey is all cleared up but a few 60-lb. tins. We were disappointed in not getting a shipment of comb honey which was on the way to us, so are entirely out. White extracted honey in 60-lb. tins brings 18 cts.; light amber, in 10-lb. tins, 18.
F. W. Fearman Co., Ltd.
Hamilton, Ont., Nov. 15.

MONTREAL. — Continuing good demand for honey. Supplies are not as large as expected. Comb honey, extra fancy, brings 21; fancy, 20; No. 1, 19; No. 2, 17. Extracted honey, white, brings 19; light amber, in cans, 18; in barrels 17½; amber, in cans, 16; in barrels, 15½. Gunn, Langlois & Co., Ltd.
Montreal, Nov. 16.

TORONTO.—Honey is almost exhausted on this market. We have only 10-lb. tins left which we are selling at $1.95 per tin. Eby-Blain Limited.
Toronto, Nov. 15.

MATANZAS. — Extracted honey, light amber, brings $1.35 per gallon. Clean average yellow beeswax brings 35. Adolf Marzol.
Matanzas, Cuba, Nov. 15.

TO DISCONTINUE SUBSCRIPTION RECEIPTS.

After Dec. 15 next, we shall discontinue the practice of sending receipts for subscriptions by letter or postal card, and ask our readers to look for their receipt in the change of subscription date made on the mailing address of the journal. The purchase of a new mailing machine enables us to print the date of expiration of subscription more fully than heretofore and so plainly that no subscriber can fail to note such change if he looks for it.

Will our subscribers please watch for this change of date after renewing their subscriptions? However, subscribers are to remember that when their subscriptions reach our office later than the 20th of the month, their mailing address will not show the change of subscription date on the wrapper of the next GLEANINGS received, but the change will appear on the mailing address of the second journal received thereafter.

The record of all subscriptions received will be kept with unusual care in our office and credit be given here in our books, while our subscribers will find corresponding credit given in the subscription expiration date on their mailing address.

We shall appreciate prompt notification from our readers if their mailing address ever fails to show them proper credit given for remittance for subscription—always remembering that remittances received after the 20th of any month will not bring a change in the subscription date on their mailing address until the receipt of the second journal thereafter.

If our readers will co-operate with us in this matter, their kindness will be greatly appreciated in aiding us to offset somewhat the constantly increasing publisher's cost and to meet a shortage of office help. J. T. CALVERT,
Business Mgr. Gleanings in Bee Culture.

GLEANINGS IN BEE CULTURE

DECEMBER, 1917

EDITORIAL

THE DEMUTH method of packing colonies of bees in regular hives and supers has the merit of cheapness. Many people would put their bees in double-walled hives or large quadruple packing-cases were it not for the expense. The four-hive cases with the single-walled hives are as expensive as four double-walled hives. The amount of lumber in an ordinary quadruple case amounts to between $4.00 and $5.00, or from $1.00 to $1.25 a colony. Of course this investment may be good for ten years; but even then it will be 10 to 12 cents a year per colony. The lumber in a Demuth inner packing-case will not cost to exceed 10 or 12 cents, or, on a basis of ten years, a little over one cent a colony.

TWO CHEAP METHODS OF PACKING

Mr. C. P. Dadant, at the Springfield convention, called attention to the method of outdoor winter packing which he has been using for a good many years with marked success. He makes no claim as to what it will do for other people in other localities; but he says that for where he lives it is a success. It is so simple and cheap that many would think it is good for nothing; but it is to be remembered that the Dadants do not recommend anything unless it has merit. Here is the plan:

Common forest leaves are pushed up around the two sides and the back of the hive. A strip of poultry netting of suitable length and width holds the packing in place when the two ends are fastened to the front which is not protected. One can use two, three, or six inches of packing in this way according to the locality and he can put it on any time now—the sooner the better.

Over the top of the hives is placed a straw mat, for Mr. Dadant is a believer in upward ventilation. The cap, which is some five or six inches deep, is filled with forest leaves and set over the hive. It will be seen that the whole hive is packed except the front, which faces the south.

The objection was raised that this packing would get wet and freeze, and be worse than nothing; but the proof of the pudding is in the eating. If it does get wet and freeze it does no harm. The presumption is that the packing is dry most of the time during winter. Forest leaves will not hold moisture; and even if they were wet down by rain they would soon dry out because the vertical layer is exposed to the air thru the netting.

While Mr. Dadant did not mention it, double and packed division-boards, one on each side, could be put in the brood-nest, increasing the amount of packing on the sides.

There are some to whom this method of packing might appeal. It costs but very little to try it out, at all events.

THIS YEAR we have received many complaints from purchasers of bees and queens because the shipments arrived too late to be used, or were not delivered at all. The reports from the breeders themselves in the last issue, and in this number as well, give the "other side."

DELAYED-SHIPMENT COMPLAINTS

In view of the fact that these complaints have been so numerous and so serious, GLEANINGS now announces its intention of making still more rigid the conditions for bee and queen rearers who desire advertising space in its columns. One of these requirements will be that the queen or bee rearer advertising in GLEANINGS guarantee to ship bees or queens within five days of the time agreed upon in correspondence with the prospective purchaser, or, being unable to do so, will notify the purchaser at once when shipment can be made. If the purchaser cannot wait, the breeder is to return the money advanced. Perhaps it may be wondered why we do not stipulate that queens and bees shall be delivered on the exact date set. Weather conditions often

make it impossible or inadvisable to ship at any precise time. But the customer should have the assurance that when he places his order the stock will be sent within a reasonable time of the day agreed on.

A delayed shipment is often a serious matter to the honey-producer. When bees or queens, or both, are promised by the middle of May and delivery is not made before the middle of June, the customer has a good right to complain. In that month, during which he was awaiting the arrival of queens or bees, the colony might have nearly doubled in strength, and quite likely would have been in fine condition to produce honey.

In many cases of complaint recently made to GLEANINGS the bees and queens were not shipped at all; but all kinds of promises were made by the rearer that shipment would be made within a short period, and this promise not kept. In some cases promises of shipment made even the year previous were broken. No one can think well of doing business in this way, for the shipper holds the money while the purchaser holds the bag, and not only holds the bag but is left to wonder whether he will ever get the bees or queens at all, or his money back.

Of course, last season's conditions were so bad for queen and bee rearing that the breeders positively could not make shipments as promised and expected. This fact, however, does not alter the rightfulness of the proposition that the queen or bee rearer owes it to his prospective customer to inform him precisely as to conditions and when the delayed shipment can and will be made, and give that prospective customer the option of either accepting shipment at a later date or the return of his money.

In formulating new conditions for entering into our advertising columns we propose also to come to the defense of the bee and queen rearer against the unfair or dishonest customer by establishing this rule: That in case a customer claims that a queen has arrived at its destination dead, this dead queen be returned at once to the shipper; and in case the claim is made that the bees shipped arrived at their destination dead, or in bad condition, that the report of the express agent or other carrier to that effect be secured and sent to the shipper.

It is certain that the time has come when there should be definite terms and conditions established between the queen or bee rearer and his customers. These terms and conditions should establish a definite understanding, and put an end to the shipper and customer each having his own interpretation of right and wrong in this important matter of buying and shipping bees.

CONSERVATION OF WINTER STORES

FOR COLONIES that are wintered outdoors it is highly important to have the summer brood-nest contracted down to a space of two-thirds or three-fourths of the full hive capacity. It is in line with the practice of our best beekeepers. In the case of a ten-frame hive the reduction will make a winter nest of seven or eight combs, and in an eight-frame hive five or six combs. No matter whether the frames are stood on end as shown on page 921 of this issue or whether they hang as they do in summer, the brood-nest should be contracted.

Many beekeepers have for years, in the milder climates, wintered successfully in single-walled hives by merely putting a two-inch packed division-board one on each side of the brood-nest. This makes three-inch walls or packing for the sides, and seven-eighths for the ends. Some dry leaves or other packing material in a super is then put on top.

It goes without saying, that a much better arrangement is a double-walled hive having packed spaces on the ends as well as on the sides. Many beekeepers have made the mistake of leaving for winter the full set of combs in even a double-walled hive. It is always possible and advisable, even in such hives, to contract down the brood-nest to two-thirds or three-fourths of the summer capacity by putting in two packed division-boards on each side. In a double-walled hive we increase the amount of packing space and protection.

The new Demuth plan of wintering bees on Langstroth frames on end, as illustrated on page 921, calls for reducing the size of the brood-nest in order to get sufficient packing between the inner and outer walls.

The smaller the actual size of the brood-nest during winter, the less cubic capacity the bees will have to warm up. In other words, it will require fewer units of heat and less drain on the bees to warm up a brood-nest of seven-frame capacity (whether stood on end or left horizontal) than it will take to warm a hive of ten-frame capacity; and when we make the room smaller, and at the same time make the packing-space greater, we are putting that much less tax on the vitality of the bees.

When the temperature of the inside of the cluster is below 57 Fahr., it is necessary for the bees to generate heat by activity that is a severe tax on their supply of stores as well as on their vitality. We can save much of these stores and this tax by

giving the bees less room to warm up, and more packing, or both.

Our own experience shows that a colony in a single-walled hive will consume from 50 to 75 per cent more stores than one well and amply packed with a brood-nest reduced down to a capacity no larger than is necessary to take the cluster and the combs.

When it is almost impossible to get sugar, the importance of reducing the size of the winter nest, and at the same time increasing the amount of packing, cannot be too strongly emphasized. The beekeeper who fails to give his bees every advantage is wantonly wasting stores, and at the same time he is killing his colonies. Right now, when there is such a demand for sugar, it is the patriotic duty of every beekeeper to save sugar stores and increase the amount of sweets by producing honey. The likelihood that the war will be over by next January has gone glimmering. We may see several Januaries yet with the war still on.

MOST BEEKEEPERS had their bees supplied either with artificial or natural stores before the sugar shortage came on. Some of them, however, were caught badly. In a few cases we have learned that beekeepers have been able to get sugar from wholesale houses by showing that, for every pound of sugar they get, they can raise at least ten pounds more, for honey is sugar. Where sugar is given out in this way it does not contravene the spirit and purpose of the government regulations.

SUGAR FOR FEEDING

In some cases, as pointed out in our last issue, brown sugar can be secured; in others molasses, and in still others cheap candy. Where one is located near a candy-factory he can get the sweepings of candy from the floor. While this will be a conglomeration of everything, it will make a very fair syrup when strained thru cheese-cloth. But from now on, candy should not be melted up, but given to the bees on top of the frames in wooden butter-dishes. If it is very hard and dry it should be moistened. In no case should glucose be used. In the first place it is difficult to get bees to take it, and in the second place it will kill them before spring.

In some localities, not even two pounds of granulated sugar can be obtained. In Cleveland, for example, the housewife cannot get anything in that line. This means that she will be driven to the use of honey provided it can be had.

WHILE ADMITTING that the large cases afford the most ample protection to outdoor wintered colonies, and while they are undoubtedly superior to anything else for northern climates for outdoor wintering, they have some drawbacks. First is the cost, amounting to five or six dollars per case; second, the great amount of work in packing and unpacking; third, they are not suitable where outyards have to be moved frequently from one locality to another; fourth, they cause a great amount of drifting, or at least we have had considerable trouble in our locality. In order to make the plan work, the hives should be placed and kept in groups of four all summer, back to back and side by side. After the four hives are slid together and packed in one big case the appearance entirely changes, and for a day or two the bees act very much confused. After midwinter flights, such as we have in our locality, we sometimes find one colony very strong and the other, right beside it, quite weak. This is caused by the fact that the two entrances are so close together that when the bees are flying at one entrance pretty strong they are apt to draw the other bees just coming out. Fifth, when hives are placed in groups of four, it means that one pair of entrances will have a much more advantageous position, so far as exposure is concerned, than the other.

QUADRUPLE WINTER PACKING-CASES

Prize Articles Wanted

The editors of GLEANINGS wish to harvest the best experience and best methods of management learned anywhere during the past season. To this end we offer cash prizes for papers on the following subjects:

For the most practical, money-saving plan of management, accompanied by sharp clear photographs: $15.00 for best paper; $10.00 for second best, and $1.00 additional for each photograph used.

For an illustrated system, practical for out-apiaries, that requires the minimum of labor: $15.00 for best paper; $10.00 for second best, and $1.00 additional for each photograph used.

All other material offered in competition and accepted will be paid for at a rate corresponding to the value of the plan.

Writers for these prizes must have their papers in the GLEANINGS office not later than Jan. 15.

For the best paper on beginners' work, success, and how accomplished, $10.00; for second best, $5.00.

INSPECTOR W. D. WRIGHT

A Brief Glimpse of the Home and Apiaries of a Successful New York Beekeeper and State Inspector

By R. F. Holtermann

AMONG the many apiarian shining lights in New York State, W. D. Wright readily takes a place. He has been one of the four state inspectors since 1900, and has proved himself very efficient in this work. He is a man who does well and thoroly whatever he undertakes, and the neatness and order shown about his apiary and home can scarcely be excelled. I visited his home in company with Chas. E. Stewart, another of New York's most efficient inspectors, who had most kindly offered to pilot me about. I want to say that I have had abundant testimony from widely scattered sources, that it has been a splendid thing for New York to have these four good men hold office so long. Being practical beekeepers themselves they have secured the confidence and good will of the beekeepers, by reason of the wise counsel they are able to give.

MR. WRIGHT AS A BEEKEEPER.

Mr. Wright has been keeping bees since 1866, beginning with his first colony at the age of fourteen. From then until the present time he has run each season from one to about 500 colonies. His bees are practically all Italians, but he does not care for the golden Italians. Like Mr. Stewart, he does no fall feeding except by giving combs of honey from the supers above. In addition to his duties as inspector he has been running two apiaries.

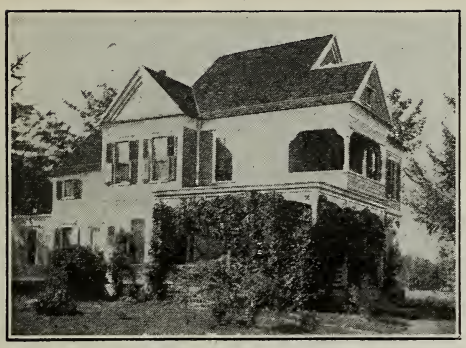
WINTERING.

The bees are wintered in a cellar. At one time he used a bee-house above ground, and wintered successfully in that way. However, the wall packing of the bee-house gave out by rotting down, as is so often the case, so that toward spring it required a great deal of careful attention. Mr. Wright has since resorted to cellar wintering.

He sets out the bees about April 1, the exact time depending upon the weather. The setting-out process is sometimes spread over a week, he finding, what my experience amply endorses, that by setting out a portion when the bees become restless the bee-house or cellar is relieved and the remaining bees quiet down.

The bees are first examined for honey and queens. If the hive is fairly heavy it is taken for granted that the stores are

Part of the home apiary of W. D. Wright, Altamont, N. Y. Mr. Wright has been a successful beekeeper since 1866, when, at fourteen years of age, he bought his first bees. He has often had as many as 500 colonies.



Mr. Wright's residence.

The apiary in 1880, showing the hives in Manum winter cases that were being used at that time.

sufficient. Again, as soon as any brood is seen, capped or otherwise, it is taken as proof that the queen is there. The queens' wings are clipped on one or both sides.

THE PREVENTION OF SWARMING.

Mr. Wright is a strong believer in shade, ventilation, and room given in time, for the prevention of swarming. The shade may be natural or artificial, the latter by means of shade-boards. He does not examine for queen-cells in connection with the swarming impulse, but finds it safer to have some one watch the apiary during that part of the season when there is danger of swarms issuing.

Extracted honey is raised exclusively, and the extracting is done at the close of the white-honey flow, and again at the close of the dark flow. He generally uses a bee-escape board for the removal of the surplus, two or three supers of which are tiered up. I might mention here that as supers are required Mr. Wright places the empty one on top.

When asked if old combs are a detriment to a colony he replied, "They may become so thru age, but combs can be used a good many years without injury to the colony."

Brantford, Ont.

The out-apiary at Knox. Mr. Wright produces extracted honey exclusively as shown by the tiered up extracting supers on the hives.

QUEEN - REARING TROUBLES

Some of the Reasons why Queen-breeders all over the Country were Unable to Fill Orders Promptly

Continued from last issue, page 836.

IN the last two or three years the beekeepers of the United States and Canada have been greatly interested in the possibilities of combless packages. Beekeepers in the North have used them in building up weak colonies, making increase, and have even gone so far as to consider the possibilities of sulphuring their bees in the fall and replacing them with one-pound or two-pound packages in the spring. Judging from the way the queen-breeders and other beekeepers in the South have been flooded with orders, they have evidently found it profitable. These queen-breeders and beekeepers in the South, and even a few in some localities further north, seeing all this business, have gone to selling bees in the same eager way that the northern men have been buying them. They look at a package of bees at a dollar or a dollar and twenty-five cents per pound, and have visions of what their bank account will be after they have been in the business for a year or two. The Penn Company, at Penn, Mississippi, have been in this business for several years, and believe they have the experience and business ability to make it profitable if any one can. As to whether they did or did not succeed in the business may be shown by this statement of their bee and queen business for the last season.

RECEIPTS.	
4945 queens sold and shipped by mail...	$2733.69
1617 queens sent out in packages.....	1131.90
1638 packages and nuclei sold.....	2644.40
44 colonies sold	434.09
	$6944.08

DISBURSEMENTS.	
Sugar used in feeding colonies and nuclei	$1500.00
Team and truck expense, including cost of gasoline, oil, repair bills, etc.....	600.00
Cost cages for queens and packages.....	400.00
Advertising in journals	210.00
Bees and queens bought from other sources to supply in above sales.....	1050.00
Wages and board for help in operating...	1500.00
Losses in transit.....	580.00
Office help charged against this part of business to operate	300.00
Bees bought in colonies to offset sale of 44 colonies	220.00
Interest on investment	240.00
Depreciation and maintainance	300.00
Incidental expenses, etc.....	200.00
	$7100.00
Total loss on operation and sales.....	$ 155.92

In the first place, the statement shows sales amounting to $6944.08, and a total operating and overhead expense of $7100.00. The company, therefore, had a total loss of $155.92. If the season had been more favorable there would have been more bees to shake, and that would have increased the profits to a certain extent. Also, owing to a bad spring the sugar-bill was probably twice as much as it would have been in a more favorable year. The item of team and trucking expense may seem a little high, but is correct. The cost of cages and packages is low, as they are made in the company's own factory. The advertising bill is not excessive. The bees and queens purchased were to satisfy customers whose orders could not be filled at once. Very little profit was made there. The $1500 item of "wages and board for help" will probably be increased next year. The $580 was refunded on orders that could not be refilled. The interest charge of $240.00 is 8 per cent on a $3000 investment. Depreciation and maintainance is figured at 10 per cent. The item of incidental expenses, $200, includes stationery, stamps, smokers, veils, etc.

It is admitted that this was a very hard year as to weather conditions and the amount of feeding that had to be done. There was a great deal of complaint from purchasers of bees concerning delays in shipment and losses in transit. The delays in shipment were due not so much to overbooking as to poor breeding conditions. The fact is that a great many bees in the South dwindled and actually died of starvation last spring. Those breeders who did produce any bees at all had to force their bees artificially with sugar. As to the losses in transit, and poor condition on arrival, especially this year, there have been a number of suggested explanations such as the age of the bees, uneven weather conditions, bees excited by excessive robbing while being shaken, and the bees being raised on sugar. The weather undoubtedly had something to do with it. The "old bee" explanation is hardly plausible: for when a colony is deprived of practically all its working force, and again the same thing repeated in ten days or two weeks, the latter drawing can have but few old bees in it.

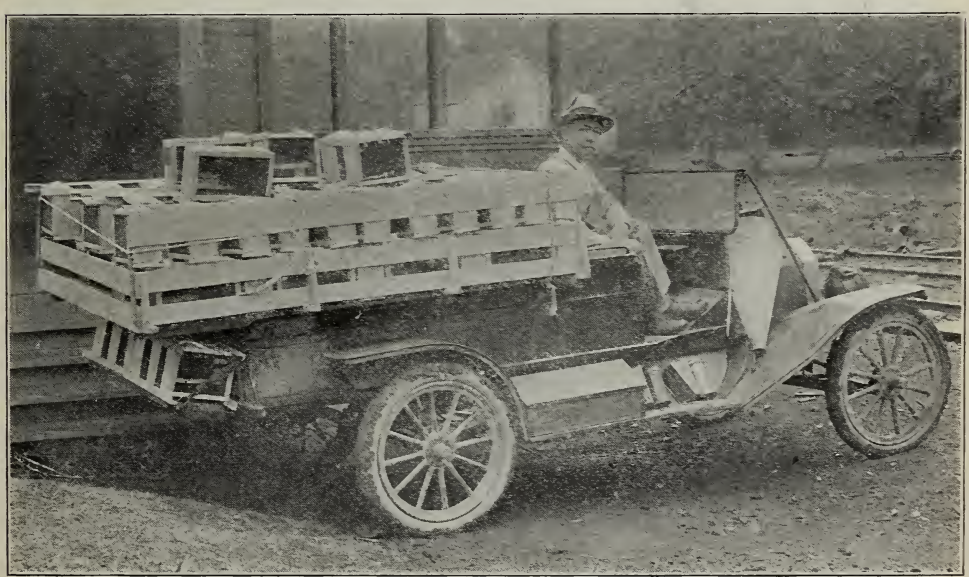
Robbers will account for some of the loss. It may be possible that bees, while able to live on sugar when mature, lack vitality when fed on sugar in the larval stage.

A good day's work ready for hauling to the station.

There will be a big demand for package bees for next year. In fact, most of the breeders already have inquiries for almost all the business they can handle for the coming year. It is certain that no bookings will be made at last year's prices. Owing to the attractive price that honey is bringing, undoubtedly some of the package men will go out of the package business. This condition, together with the increased demand, and the fact that the breeder's profits ran short this season, will raise the price of bees twenty-five to fifty per cent for next year. E. A. HARRIS.

Penn, Miss.

[Some, perhaps, in studying the figures presented by our correspondent will be inclined to think that at least one of the items in the list of expenses is too high—the $300 for depreciation and maintenance for example. However, depreciation goes on day after day and year after year. If a certain percentage on the investment is not set aside every year, when an entirely new equipment becomes necessary there will be nothing on hand with which to meet the bill. More than one business has been wrecked by the ignoring of this one thing—the maintenance of equipment, and beekeepers who are not taking this item of ex-



For a queen-breeder the jitney is indispensable.

General view of a twin-nucleus queen-mating yard belonging to the Penn Co., Penn, Miss. Another view of this yard is shown on the cover of this issue.

pense into consideration will have a sad day of reckoning later on. We do not consider the expenses figured too high. The following articles show something of the extra work entailed this last season.—ED.]

DRONES KILLED OFF IN MID-SUMMER.

After spending over a quarter of a century in the queen-rearing business I find that to name all the difficulties over which we have no control would be about impossible.

Texas is called a land of sunshine and flowers, and so it is if weather conditions are favorable. But how often is our sunshine dimmed by a dark cloud from the east that hangs over our little nucleus yards till nearly every ray of hope is blasted and all our work brought to naught! About this time orders are piling up, and beekeepers are kicking because of delayed shipments. Finally the clouds roll away and the sun shines once more, finding us weeks or perhaps a month late on orders.

By this time the correspondence is excessive; and as all of our day time is taken up with the bees, we send as many replies as possible at night. When daylight comes again there are a thousand things to be done—cages to prepare, crates to make, nuclei to make, and cells to care for.

As we have several hundred nice virgins ready to mate, we anxiously await a still, fair afternoon such that the young queens can take their flight; but, alas! the south wind is blowing, and for days and weeks it will continue to blow. Last April we had but very few queens mated, as the wind blew a perfect gale nearly the entire month.

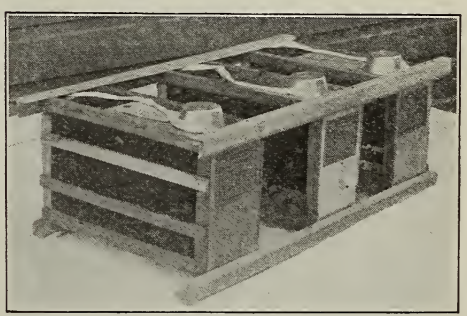
Along in May we began to fill orders pretty fast, but were soon hopelessly behind. About the middle of May the drouth struck us; in fact, it struck us a year before then; but it was only last May that we began to feel it seriously. It continued to grow steadily worse. The flowers ceased to bloom—no nectar, no pollen—bees loafing around the entrances of the hives like a lot of drummers waiting for a belated train—nothing to do but wait.

Finally I noticed the bees killing the drones, and was, therefore, obliged to make my drone colonies queenless to save the drones. The queens almost ceased laying, the colonies weakened, while the nuclei swarmed and all mixed together. As the bees gradually consumed the little stores they had, they grew daily weaker and weaker until we were compelled to resort to feeding.

To sum it all up, unfavorable weather was the main cause of our difficulty in queen-rearing. Plenty of good queens at the right time would stop 75 per cent of the complaints. The bee-shipper is depending on the queen-breeder for queens to go with his packages. The queen-breeder is unable to supply him, hence his customers are impatient over the delay. With efficient help, still clear days, and with nectar-yielding flowers, the honest industrious queen-breeder can turn all the frowns to smiles.

The man who embarks in the queen-rearing business to get rich quick will find himself floating around in the wrong canoe before he sails very far. Some years ago I made up my mind to quit commercial queen-rearing and go into honey production. But one year was all I could stand, for I had a lingering love for my old job, and the next spring found me back in the queen business. C. B. BANKSTON.

Buffalo, Tex.



Three packages of bees cleated together for shipment.

DISCOURAGING SEASON FOLLOWED BY SURPLUS HONEY-FLOW FROM CORN.

The season just closing has been, for southern beekeepers, most peculiar as well as difficult. Our colonies at the beginning of last winter were heavy with stores and fairly strong in bees. In our locality queens cease laying about Nov. 15 and begin again in January. As a rule, our coldest weather comes in February. Last winter we had no extremely cold weather, and February 15 saw our two-story ten-frame hives overflowing with bees, just at the swarming-point. Four-frame nuclei, of which we winter several hundred, were in the same condition. We could easily have disposed of a hundred pounds of bees without missing them.

Everything seemed favorable for an early spring. Willows, oaks, and fruit-trees began to bloom. Then the weather turned cold, with chilling winds from the northwest; bees leaving their hives were so chilled they could not return, and vast numbers

were lost. April 15, at the opening flow from white clover, colonies contained less than half the working force they had in February, and were on the verge of starvation. There would be a few days of warm weather, when bees would work vigorously; then cold northwest winds would stop everything. Such being our weather conditions till the last of May, queen-rearing was, to say the least, most discouraging.

June 1 the bloom from white clover was almost over, and the bees had gotten but little more than a living. Then the first week in June we had a honey-flow that surprised us when we learned the source—corn! Usually when corn begins to tassel, bees work busily gathering quantities of pollen and a little honey; but they have never gathered to any appreciable extent until this year. The honey was light amber, of a good flavor, while the honey that we had previously thought came from corn was dark and of strong flavor. The flow continued for a month or more. Cornfields swarmed with bees—a sight such as we never before witnessed. Extracting supers were filled in a short time; also some fine comb honey was obtained. Colonies that were in good condition averaged a hundred pounds from this source alone.

After June 1 our season changed from dry and cold to dry and hot weather. Bees were busy all the time, and queen-rearing was carried on under most favorable conditions. Bees are still storing from heartsease (Oct. 10), which has given us a fine flow. Goldenrod is just opening, and in another week aster will be plentiful, so the bees will again go into winter quarters with plenty of stores. Even nuclei will not have to be helped in the matter of winter stores. Altho the conditions since June 1 have been so satisfactory, it is safe to say beekeepers in the South hope never to experience another such season as we had the first six months of 1917.

Loreauville, La. F. E. SHAW.

WEATHER CHANGES WHENEVER THE WIND CHANGES.

Our spring weather is very uncertain. We have cold snaps all thru March and April; in fact, the weather changes every time the wind does. Some years ago I sent a queen advertisement to GLEANINGS, and along came the orders before any queens were ready. When I wrote that the queens were not ready, my prospective customers said I should not advertise queens until I had them, so since then I have always advertised the date on which I expect to have the queens ready.

If we have any honey-flow here it is in May and June, and not later than the 10th of July; then no more until about Sept. 20. However, good queens can be reared by feeding until about the first of September when the nights begin to get too cool. But there is no month in the year here when we are not likely to have a few days of rainy weather that will keep the bees in. Then when the sun does come out, everything is in an uproar, and the young queens get lost in one way or another.

I think customers make a mistake sometimes in demanding that the queens or bees be sent by return mail or the money returned. I have had such demands when I could have filled the order in three or four days; but in order not to lose this customer it certainly would be wrong to rush thru his shipment and let others wait still longer. In fact, I have sometimes returned such orders when I could have filled them in the same time, for I think that, in this matter, breeders should do as requested by customers; but I also believe that customers should give a few days for filling an order, and not risk sending to another and finding him also behind in his shipments.

Randleman, N. C. D. T. GASTER.

DAYTIME, NIGHTTIME, ALL THE TIME.

Two unusual things occurred to the package-shippers and queen-breeders the past season—namely, great demand for bees and queens, and peculiarly unfavorable weather everywhere all the season.

The increased demand and the soaring price of honey, together with the government's slogan, "a hundred million more honey," caused beekeepers to order bees and queens as they never did before. It seemed as if everybody sent in an order for bees and queens, and, not being prepared for such a demand, many breeders after working hard all day had to sit up half the night returning orders they could not possibly fill. All that could be done was to accept such orders as there was a possibility of being able to fill on time.

Then another unusual thing occurred—the early spring weather looked for did not come; and all thru the summer there was more or less unfavorable weather, with a heavy loss in virgin queens and a consequent delay in filling orders booked. It seemed as if the weather was the cause of the failure to realize the "hundred million more of honey;" and what proves unfavorable to honey production is doubly so to the queen-breeder, as every breeder in the land can tell from the past season's experience. It will be necessary to exer-

cise charity on both sides until the trade adjusts itself to the unusual conditions so suddenly thrust upon us.

The above facts suggest, as a possible remedy, that package-shippers and queen-breeders prepare for an increased trade in 1918, and accept no more orders than they can be reasonably sure of filling on time. (Better refuse an order than not to be able to fill it on time.) Also that persons desiring bees and queens book orders in advance so breeders may anticipate the wants of patrons and plan to meet them on time. It often happens that several beekeepers send the same time to the same man, and all want their orders at once. In a season like this, some will be disappointed, because that particular breeder may not be able to meet all those demands at the time desired; whereas by sending in advance of actual time needed it would enable the breeder to know if he could or could not fill the order, and would give sufficient time to notify the purchaser so he could arrange his plans accordingly, and neither one be disappointed.

Rockton, Pa. J. B. HOLLOPETER.

IT IS HARD TO PLEASE EVERYBODY.

The past season has been the worst for queen-rearing that I have ever experienced since I have been in the business, and some orders were consequently delayed. I believe that beekeepers are the most kind and agreeable people to deal with in the country. But in spite of this it is hard to please the whole world. Both breeder and buyer have been disappointed. The process of turning out young queens is not as rapid as thrashing buckwheat. It takes at least 25 days from the graft to get a laying queen: and if two weeks of bad weather occur, all is lost.

This year I could get the bees to accept the cells without any trouble: but when the cells were from six to nine days old the bees would destroy them. I had the bees cut down queen-cells and pull out queens, which I later found on the bottom-board, alive, well developed, and with wings. There were 18 young queens lost in this way, and I was 25 days behind again. I then received orders saying, "Send queen by return mail or return money." I was doing everything possible, working night and day, to get the queens mated and laying for my customers; but the one thing necessary was time. I could not hurry matters. Of course if one sets a hen, and the eggs get chilled and won't hatch, he is obliged to set her again to get young chickens. The case of queen-rearing is parallel.

I should also like to call attention to the fact that not every buyer knows how to use a queen when he gets her. I have the following illustrations: First, "I received your queen and I took my hatchet and knocked the head off the 'gum,' and I put in your queen, and the next day I found your queen dead on the ground. This is my luck with her." Second, "Send me by return mail one of your queens and half a dozen bees to match. I want to get a start in this way." Third, "I see you have bees for sale: please send me your price of a queen and a drone. I want to get a pair to start from you."

My customers have been very patient during the delays, and I hope next year's queen-rearing will be more pleasant than the past. HENRY S. BOHON.

Roanoke, Va.

EVERY ONE WANTS ITALIANS.

The past year has demonstrated the fact that the black bee has had her day, and that the beekeepers have decreed that the Italian is the only bee that will be tolerated. I base my opinion on the letters received, calling for Italian queens, and stating that they seem to be immune to foul brood.

I believe that queen-breeders never had a season equal to the past one, and that all of the best known have had all the business they could attend to.

We started the season thinking that we could care for all the orders received. But we found, even with our ever increasing facilities, the demand increasing, and, altho we reared more queens than ever before, we were unable to supply them and had to return the money to many who wished the queens by return mail. This was partly due to the rainy weather in the early spring, and unfavorable circumstances thru the entire season.

The season was nearly half over before we caught up with orders, and we commenced to breathe easier: but just then the rush came again, and we were kept hustling. We always try to send queens by return mail, but this season we were not always able to do so: yet we were surprised to see how cheerfully the average customer took it when the circumstances were explained to him.

The summer demonstrated the fact to us that beekeepers as a whole are very reasonable people, and we remember with much pleasure the many kind words received from them, and the very few complaints as they patiently waited their turn. The nice letters received after sending the queens make the queen business one of the most agreeable of occupations.

Another reason for increased orders is that the beekeepers found that, with the

greater demand and higher price of honey, it did not pay them to rear queens at a dollar each; and as things are at present no one can rear queens at that price with profit unless he is equipped, and gives his special attention to that branch of the business. No queen-breeder should try to rear queens at a price so low that he cannot furnish the very best. I do not mean by this that it will be possible to have every queen turn out perfect; but I feel sure that any reputable breeder will replace any imperfect queen when he is convinced of the fact that she is defective.

Binghamton, N. Y. C. W. PHELPS.

RAINSTORMS MAKE IT IMPOSSIBLE TO SHIP ON SPECIFIED DAYS.

During the past season the demand for queens and for bees in packages was enormous. This was caused, I believe, by the very severe winter losses in the northern states and the greatly advanced price of all grades of honey. As a breeder and shipper of bees and queens exclusively for several years past, I will endeavor to explain some of the local conditions occurring, which may not be fully understood by northern customers.

During April, and very rarely May, we have rainstorms lasting from a day to several days, which makes it quite impossible to guarantee shipments on previously arranged dates. This, of course, is a hardship on the customer in the North, who perhaps drives several miles expecting his shipment on a certain train, only to be disappointed by its non-arrival. The breeder also is inconvenienced for he is put back on this as well as other orders.

The practice of shipping bees in the spring in light screen cages with no comb is now a fully established success, since it is safe from the transmission of disease. Some states have already passed laws allowing bees to be shipped in no other way.

My advice to the buyer is to be sure and not order his bees to arrive too early. When the bees start to whiten the combs along the top-bars it is a good time to have the packages arrive. This time can be determined in advance by keeping a record of several seasons; or if in a new locality, some local beekeeper can nearly always supply this information.

If one already has bees and can give each package one or more drawn combs (one with honey and a little brood is best), then fill in with full sheets of foundation, there is little chance for failure with package bees in April, May, and June. If put on foundation only, they should be fed for a few days. When ordering bees some time in advance it is best to state, as nearly as possible, the time delivery is desired. This gives the breeder a chance to hold this date open for that special order.

San Jose, Cal. J. E. WING.

THOSE AWFUL CHANGES OF TEMPERATURE.

For bee-raising and queen-rearing, this past season has been the most unfavorable one I have ever experienced. Altho I have been able to fill almost all of my orders, one man claims he could have used 100 or 200 more if he could have obtained them earlier. The rest of the orders have been filled, but with some delay and occasional complaints. However, so far as I know, all difficulties with my customers have been righted.

My main trouble for this season was sudden changes of temperature which raised havoc with queen-rearing. When the weather would warm up and I could get a fine lot of cells started, a change of temperature would occur, and the cells that were ready to hatch would have to be cut out and placed in nuclei where they often died in the cells. On the other hand, if a warm day or night followed the cell-cutting, and giving to nuclei, there resulted just as fine queens as could be found. This year the pound-package business has been the heaviest I have ever had; but I filled all orders except two. On account of the sudden changes of temperature, the fall flow was almost a total failure.

Jellico, Tenn. CURD WALKER.

DISCONTINUES SELLING BEES BY THE POUND.

This was the poorest season I ever passed thru in my life—at least since I was in business for myself; yet I know all queen-breeders had the same troubles. Well, I am getting on my feet again, and am already laying my plans for the coming year.

In general I am planning a policy of retrenchment. I expect to sell very few bees, if any, by the frame or pound, and I shall do very little advertising, having decided to increase my number of colonies instead.

Point Pleasant, Pa. H. W. FULMER.

[The foregoing articles together with those published in the last number show something of the real problems that the queen-breeder has been having to meet this past season. It is to be hoped that such a combination of conditions may not occur again—the increased demand for bees and queens and the unusually bad weather conditions. In all probability the demand will be just as keen next season. Here's hoping the weather may be ideal.—ED.]

DEMUTH'S PLAN OF WINTERING

Some Improvements on the General Plan Illustrated and Described on page 842, November Issue

By E. R. Root

SINCE our last issue we have been giving this general plan a great amount of study. We have called in our entire editorial staff as well as our Mr. Pritchard and his son, who raise so many queens. We asked Mr. Pritchard, who is a genius in making new fixings, to study out the problem of a cheap inner case for holding six or seven Langstroth frames on end. As a result of this study he brought into the editorial sanctum a nearly square long or deep box without ends, made of cheap thin lumber. In his opinion it is not necessary to have the more expensive case with a hinged lid of the kind illustrated and described on page 843 of our last issue; and he therefore made a plain box (as shown in the subjoined illustrations), of ⅜-inch stuff nailed at the four corners, without rabbets, and of such dimensions as would take in seven Langstroth frames, a bee-space deeper than the frames, and three inches longer. From his box the frames can be lifted out after being packed if need be. It may be necessary in the spring to substitute combs of stores for those that are empty.

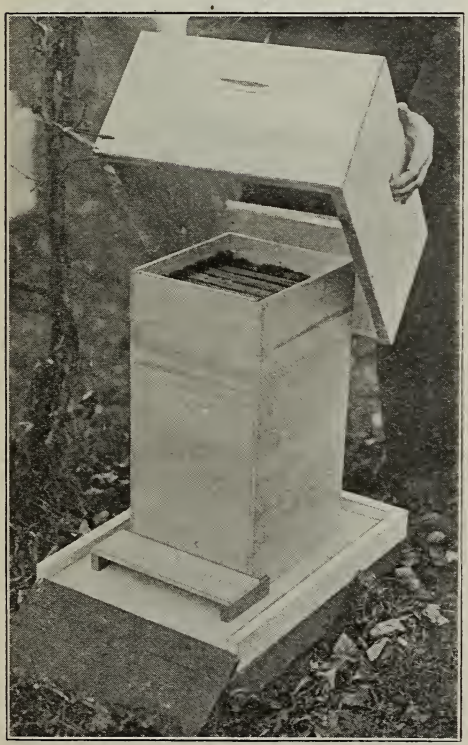


FIG. 1.—The Demuth inner case with the Pritchard improvement, just large enough to hold seven Langstroth frames on end, leaving 2 inches on top and one inch beneath. A bridge in front connects the inner with the outer entrance. It is placed centrally on the bottom-board when the regular summer equipment of supers is placed around as shown in Fig. 2.

FIG. 2.—The new scheme of winter packing, using the regular equipment of hive-bodies and supers found in any beeyard. Two hive-bodies and one super or three hive-bodies make up the outer case.

A cleat running crosswise thru the center of the box, and one inch from the bottom, supports the seven frames when they are put up on end. A flat board cover, a piece of burlap, or two or three thicknesses of newspaper, cover the top, after which packing is poured over the whole, as shown in Fig. 3. A slot is cut in one side at the bottom for an inner entrance.

It will be found by measuring up the inside dimensions of a ten-frame hive that it is perfectly practicable to use either the seven or eight frame inner case. A seven-frame case provides ample packing room of two inches one way and three inches the

other way, and will accommodate any ten-frame colony when contracted down for winter. Two regular ten-frame hive-bodies and a super will make up the outer case, as will be seen by the illustrations accompanying. Where one does not have upper stories, and runs exclusively for comb honey, he can use two supers in place of a hive-body, or three supers in all in connection with the regular brood-nest body; or if he produces extracted honey only, but has no shallow supers, he can use three regular hive-bodies.

Where one's hives are eight-frame he can still use this system of packing; but he will have to make the inner box hold only five frames in order to give sufficient packing space.

It will be noticed in Fig. 1 that we use a bridge to connect the inner entrance with the outer. The two end cleats forming this bridge should be long enough to project beyond the sides of the inner case. The purpose of these projections is to prevent the bridge from being shoved out of position when the packing is tamped down in between the inner and outer cases.

It will be noted, also, that we use planer

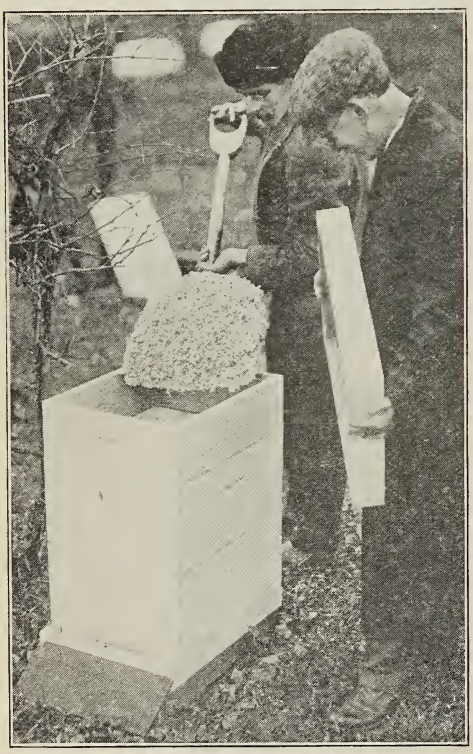


FIG. 3.—Pouring in the packing material after a flat board cover is placed on the inner case. The shavings are carefully tamped down when the regular hive-cover is put on top of the whole.

FIG. 4.—A Demuth winter-packed colony on seven Langstroth frames stood on end, spaced between the outer and inner walls 2 inches on the sides and 3 on the ends.

shavings. In the great majority of cases the average beekeeper will find dry forest leaves more available. They are just as good provided they are well tamped.

Fig. 5 shows how the frames are slid into the inner case. As explained, the case is made wider than the frames by a bee-space. When the bees are packed for winter, seven of the best combs are picked out—those containing most stores with some pollen. Two frames are taken out of the regular hive at a time, inverted, and slid in endwise like the drawer to a bureau, as shown in Fig. 5, the top-bars resting directly on one side of the case. Another set of frames are put in in exactly the same position they occupied in the brood-nest, and so on till the case is filled, care being taken to disturb the bees as little as possible. The frames are shoved clear up against the bottom cross-cleat previously mentioned, which is intended to support the weight of the frames across the middle of the end bars when the case is stood on end.

The object of having the bee-space between the bottom-bars and the side of the case is to provide clearance room so that the frames can be easily removed in the spring. At the top, one wide wedge between the bottom-bars and the side of the case holds the frames securely in position. Thus the top-bars come up against the

side of the inner case. The bees may form propolis connections to the top-bars, if they are left in the case until warm weather. But no harm will be done, as the bee-space between the bottom-bars and the sides of the case makes it possible to break the propolis connections and remove the frames.

As shown in the previous issue, we provide two inches of space at the top and one inch at the bottom. The space above

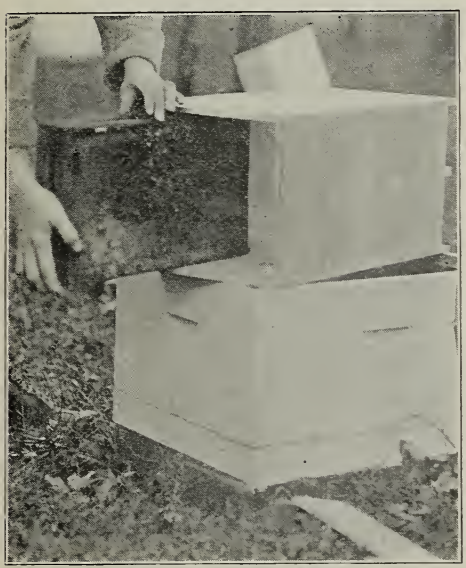


FIG. 5.—Method of inserting Langstroth frames in the Demuth-Pritchard case. Frames are put in upside down, two at a time. When the case is full of frames, just as they were in the summer hive, it is stood on end as shown in Figs. 1 and 2.

(see Figs. 1 and 2) is to receive a cake of candy or a feeder of syrup. When the winter nest is formed in the combs in their horizontal or summer position, it may be necessary to feed either candy or syrup after the frames are stood on end. The bees can then place the stores at what is now the top, and, if fed early enough, form a new winter nest. If it is too late, the cake of candy will provide food at the top.

Some of the best wintering we ever had was when we wintered colonies on cakes of hard candy with no other stores.

To prevent the hive-bodies and supers forming the outer case from getting out of aligument or displaced during a high wind it would, perhaps, be advisable to connect them together at their two opposite corners by means of a double-pointed tack or crate staple. These would need to be driven in only part way so they could be easily removed in the spring.

The amount of packing material required in a seven-frame inner case, as here shown, and a ten-frame width of hive will be about 2½ bushels of planer shavings. If a three-story case is used, three bushels will be needed. In any case, the packing should not come higher than one inch from the top; and perhaps it would be well to put a cleat under the cover on the south side to allow for ventilation to carry away the moisture rising thru the packing.

Our whole editorial force looks upon this method of packing as exceedingly promising, especially our Mr. A. I. Root, who tried it out years ago. Langstroth did the same thing, and speaks of it approvingly in his writings. He must have believed in the principle or he would not have suggested this plan of standing his shallow frames on end in order to make them deep for wintering. This may have been one of the reasons that he adopted his shape of frame. At all events, the seven-on-end-frame plan puts the winter brood-nest in the form of a tall or deep cavity, very nearly square, instead of an oblong and flat space like the Langstroth hive.

It has been the general belief among expert beekeepers that a deep hive like the cavity of a bee-tree forms a more natural winter-clustering space. There is no use in denying the fact that the old-fashioned box hives, or the old log gums, practically a foot across, and two or more feet deep, would often winter bees exposed to outdoor weather conditions when bees in double-walled Langstroth hives would die. In the arrangement here shown we are going back to the deep-hive scheme for wintering, and yet for summer we have all the advantages of a shallow hive.

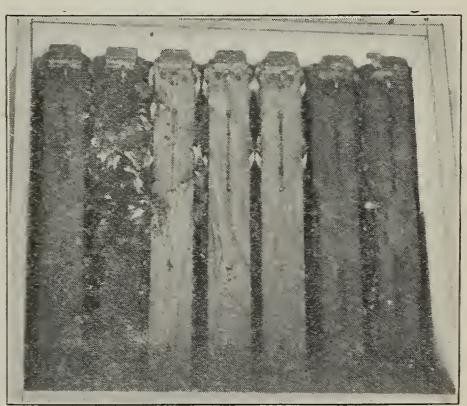


FIG. 6.—Looking down into the top of a Demuth inner case showing seven frames. The two-inch space on top is to give room for a block of hard candy, provided that the combs are a little short of stores.

GLEANINGS FROM THE NORTH, SOUTH, EAST, AND WEST

IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.

REGARDING the newspaper method of uniting, I find it will work well even when one colony has laying workers. Out of seven laying-worker colonies united with as many small colonies in early October, I lost only one queen.

EXTRA LARGE LOCAL MEETING.

The joint meeting of the Riverside and San Bernardino Co. Clubs, Nov. 1, was one of the best-attended and most profitable meetings that has ever been held in the southern part of the state. The attendance rivaled that of the annual state meet. Not only the members of those two clubs were present, but many from Orange, Los Angeles, and San Diego Counties, the special attraction being the presence of Dr. E. F. Phillips, with the addition of our secretary of the state beekeepers' association, Mr. M. C. Ritcher, as well as Prof. Geo. A. Coleman, of the University of California. Dr. Phillips was well received and appreciated. His quiet manner of speech, and his undoubted knowledge of disease, were both pleasing and convincing. His detailed description of both American and European foul brood, together with methods of treatment, met with marked attention by his auditors.

The announcement of Dr. E. F. Phillips, that there is to be a beekeeping advisor appointed for California, was received with hearty approval. All seem to think the recognition of California as a beekeeping country by the Department of Agriculture, as well as the assistance given by such an appointee, will be of great benefit.

Mr. J. D. Bixby, of the *Western Honey-bee,* came out strongly for inspection of honey and conditions in the apiary. Mr. Bixby does some inspecting, and has a very good chance to observe some of the unsanitary conditions (I feel like saying rotten) that exist in some of our apiaries. I am with him heart and soul in this matter.

Prof. Coleman advocated selecting our best bees and breeding our own strain. In this I cannot altogether concur. There are well-known breeders that have spent a lifetime improving a strain, and have the added knowledge of successful breeding. Many of these are comparatively isolated, and are much more certain of success. In California, apiaries are remarkably close, with wild bees in many houses, holes, and trees, making the problem exceedingly difficult to handle. It is my opinion gained from experience that ten dollars spent for a breeding-queen is money well spent, and the results are apparent within so short a time that the time spent in trying to breed up a strain of your own is, to a great extent, time thrown away, especially where you have to contend with your neighbors as well as "no man's bees."

PRESENT DEMAND FOR SWEETS BEST MET BY A GOOD SUPPLY OF HONEY.

The crying need of the world today is sweets, sweets, not alone for ourselves, but for the world we are trying to feed while our enemies are being crushed. The best method of securing more sweets is the method we want. In my opinion there is no one thing that would add so much to the production as to sweep away all local and state ordinances, and substitute a federal inspection law. A government permit to move bees from one locality to another should be *prima facie* evidence of freedom from disease. This would allow bees to be transported to the orange-groves for the early flow, then to the alfalfa, bean, or buckwheat fields for an additional flow. As it is now, practically every county containing bees has its local ordinance, many of which exclude bees of any other county from being imported. Some discriminate against any county where there is disease within a given radius of the bees to be moved, the radius sometimes being placed at many miles. And, strange to say, some of the very counties that have such ordinances are said to have diseased colonies themselves that are closer to the coveted location than the given radius. California has disease. There is not a county in the state, unless it be very remote, that has not disease.

The object of various ordinances is a subterfuge to exclude migratory beekeepers rather than the great fear of disease. A federal inspector could soon acquire information that would give him all the knowledge needed to regulate the shipping of bees from one point to another. In the orange belt I may safely say that not one-tenth of the nectar secreted is gathered by the bees, for the reason that the flow is so great that many blossoms are never visited at all. In some localities it would doubtless be advisable to have the location of migratory bees supervised, to prevent an overcrowding in certain sections. But this could be arranged in some manner suitable to all. If the world's cry is for sweets, take down the fences and save all it is possible to secure.

IN TEXAS

F. B. Paddock, State Entomologist

AFTER passing thru the very trying and more or less disastrous season of 1917, it is of much interest to stop for a time and look around to determine the status of conditions to see how we stand and what is the next and best step for the future. As the season passed, with month after month of extremely unfavorable conditions, there have been many who feared for the outcome, and who have not had the courage to make this review of conditions.

Over the entire state the honey-plants have suffered greatly from the drouth, which has been the most severe for twenty-five years. Rains are needed badly now, and would do unlimited good if they would occur soon. In the extreme southern section of the state the fall honey-plants have bloomed nicely, the flow extending over the entire month of October. In the Gulf Coast section the honey-plants are in very poor condition; but some distance inland it is found that the mesquite is about normal, and the horsemint will develop if normal winter rains occur. In the southwest section the honey-plants are only about 50 per cent normal. In the creek bottoms the oak growth is in good condition; but away from these localities extreme drouth conditions prevail. In the western section the honey-plants, mesquite and catclaw, show the effect of the extreme prolonged drouth. In the irrigated areas the alfalfa is in normal condition. Thruout the central section the drouth has had a very marked effect on the honey-plants, causing a very short fall flow from broomweed. The very early frost on October 8, in the northeast section, prevented the cotton from yielding any fall flow, and the honey-yielding weeds were also severely injured by this freeze.

After considering the above remarks it is only natural to ask, "What is the condition of the bees? How are they going into the winter?" In the extreme southern section the bees entered the winter in excellent condition, having had a good late flow on which they built up well and also stored a good surplus of honey. In the Gulf Coast section the bees were in poor condition, especially to go into winter. However, further inland the bees had probably sufficient stores to carry them thru till spring. In the southwest section the bees were about 60 per cent normal and were in just fair condition for winter, being rather light on stores. In the western section those bees that have received attention will go thru the winter nicely. Owing to the short crop in this section many beekeepers have not given their bees proper attention, and many of such colonies will be lost before spring. Thru the central section the majority of the colonies are in only fair condition to enter the winter, being light on stores, not having received the attention that was demanded. With plenty of stores and young bees, the colonies of the northeast section are well prepared for winter.

With such an adverse year it is only to be expected that there would be a heavy loss of bees. However, reports do not indicate that this loss has been as heavy as was expected. There has been some loss in the Gulf Coast section; and thruout the southwest section, where conditions have been so severe, there is some loss, but not as much as was expected. In the western and the central sections there have already been some losses; but heavier losses will come before spring, due to inattention before going into winter. In the northeast section, at the end of the season there was an increase over last year of at least 40 per cent in the number of bees.

After a review of the conditions at the close of the season, and a summing-up of all the factors, what are the prospects for next year? It might be expected that the extremely adverse conditions of the past year would cause many to despair of the future. But the reports do not indicate that such is the case. Among the older and larger beekeepers there is a decided feeling that next year will be more favorable than for some years past. The smaller beekeeper and the beginner will be more than ready to discard all idea of beekeeping, many being now anxious to sell their holdings.

* * *

Whatever honey is put on the market is readily taken up at a very good price. Very little honey has been handled in a wholesale way, the local market having been able to consume all that has been produced in any locality. Many inquiries have been received for carload lots, but there has been nothing offered.

Much favorable comment has been heard concerning the apiarian exhibit at the State Fair. In this unusually severe year we have had the best exhibit at the fair that has ever been presented to the people of the state. It is self-evident that much interest in honey is being created by this yearly exhibit. The interesting feature is that the exhibitors feel so well rewarded for their

efforts in presenting their exhibit. More beekeepers should avail themselves of this opportunity of presenting their industry to the public.

* * *

There are those who can see some good resulting from every disaster, and this is particularly true among the beekeepers. The extremely severe season just passed will certainly result in the death of the colonies which are in any way affected with American foul brood. The diseased colonies of last summer died very early, and what stores might have been left in such hives could not have served long in the robber colony before it in turn died out; also any colonies that robbed weak diseased colonies in the fall will certainly have a poor chance to go thru the winter.

It is said that but few or no colonies of bees are now to be found in trees thruout the southwest section, where the season has been so severe. The absence of such bees will be a great help to the queen-breeder in particular and to all progressive beekeepers in general. If it is true that bees in trees harbor American foul brood, such a menace will be removed.

* * *

In the early fall it was discovered by the beekeepers in one of the southwestern counties that their bees were dying, and examination disclosed the fact that there were no stores in the hives. Many began at once to feed sugar syrup and artificial pollen. The results of this artificial feeding were very satisfactory. In many instances such action will mean the saving of an apiary.

NOTES FROM CANADA

J. L. Byer, Markham, Ont.

OUR thanks are due the author for a copy of the report of the state bee inspector, as well as the report of the Iowa State Beekeepers' Association, which together comprise a very neat and nicely bound little volume. Mr. Pellett is not only a capable and enthusiastic naturalist and beekeeper, but in addition is a splendid writer with the ability of putting his thoughts on paper in a manner that is interesting and instructive to all who have the privilege to read them. The report is well worth a place on any beekeeper's table; and, while especially fitted for latitudes similar to that of Iowa, it has much of interest to beekeepers in other places as well.

* * *

The question of taking all the honey away from the bees in the fall and buying bees from the South in the spring has been suggested in the past, yet very few have seriously considered the proposition, as it looked too risky from a financial standpoint. Also to allow so many bees to perish does not look like good business, to say nothing of the humane aspect of the matter. I have never had any idea that it would pay, because of the great number of risks that would have to be taken into account, such as being able to get the bees when wanted, etc. But if there ever was a time when the plan looked at all feasible from a financial standpoint, that time is right now, *provided,* of course, that the bees can be bought in the spring at last season's prices (another chance). Talk about the cost of wintering stock on the farm! Why, a little calculation will show that the beekeeper will spend more in wintering his bees than many farmers ever thought of spending on their live stock. Take our own case, which is only typical of hundreds of others. With over 700 colonies in winter quarters, and colonies averaging at least 35 pounds of stores each, quite a nice sum could be put in the bank if all that honey were extracted and sold at present prices—a sum, by the way, which a few years ago (before the buying power of the dollar decreased 50 per cent) would have looked almost large enough for humble mortals like yours truly to retire on.

* * *

OUTDOORS VS. INDOORS.

So the editor of GLEANINGS is inclined to think that it is colder in Illinois than here in Ontario, page 854, November. Well, all that I can say is that if he will come here in the very coldest time, instead of coming as he did last in the very *wettest* time, perhaps he will change his opinions. I don't know how much wind they have around Borodino, N. Y., nor yet around Marengo, Ill.; but I do know that since the bush has about all been cut down in our locality we get *enough* wind to suit us, both as to continuity and also velocity. As to the New York locality with its many hills, one would naturally think that the wind would be less noticeable than on level stretches. In regard to the Illinois location, I have little idea what it is, except that it is a wonderful place for big crops of honey when the bees are man-

aged by one of the most wonderful beekeepers to whom we are all proud to do homage.

I hope Dr. Miller will notice that I advised no one to change his system of wintering, but merely stated that I did not believe there was the big difference in the two systems that some writers claimed. If I lived in Illinois I am not sure which system I would use; but I am quite certain that I would give the outdoor plan a good trial anyway. It would be the rankest presumption on my part to suggest any changes in Dr. Miller's ideas whereby he might winter successfully outdoors; but he will pardon me for pointing out to him two things at least that are against success. He uses eight-frame L. hives, I believe, and is opposed to feeding the bees in the fall, preferring to give them combs of honey as needed, to make up any deficiency. For wintering, here in Ontario, the eight-frame L. hive is the most uncertain proposition under the sun, unless heavy feeding is done in the fall. Putting combs of honey in the place of partly filled ones will not work nearly as well. More or less brood in the hive till quite late makes this work of replacing combs correspondingly late, and disarranges the brood-nest to the detriment of the bees. Light colonies fed heavily, and allowed to arrange the stores as they see fit, seems to work much better. But, if eight-frame hives were well protected and made nearly solid with honey by the middle of October, I feel sure that, regardless of the wind, they would winter *fine,* even at Marengo.

* * *

During last week in October I wrote to a friend in Pennsylvania asking him to send me a queen to replace an undesirable one I had found a few days before. The reply came at once that they had already had a fall of twelve inches of snow. While, no doubt, this fall of the beautiful would not stay with them very long, yet it seemed rather strange that we in the North had no snow at that date. My correspondent stated that the weather had been unusually cool, so it looks as tho conditions have been much the same thru all the northern zone.

* * *

Fall weather conditions continue to be much colder than the average. In our locality the bees have had no real flight since early in October. No harm has been done by this enforced quietness on the part of the bees, but naturally we are hoping for a real good cleansing flight before actual winter conditions set in.

FLORIDA SUNSHINE

E. G. Baldwin, Deland, Fla.

An inquiry has just come from a beeman living in Oak Hill, Fla., asking whether it is advisable to heat extracted honey when bottling or putting it in glass jars, etc. As several similar inquiries have come lately, appertaining to the same matter, it will not be out of place to make a brief reply here.

The novice should never heat honey to boiling, and not over 140 degrees Fahr. The expert may heat higher, with care; but this seems to be the limit of ordinary safety. The heating should always be done with a double-cased heater, which the small beeman may easily make by taking any copper or tin pan or boiler and setting it into one slightly larger. There should be at least a thirty-second of an inch of water all around the outside of the inner vessel, and more will not hurt. Be sure the water in the outer vessel rises as high as the honey in the inner one; and do all the heating with an accurate thermometer in the honey all the time. Do not use a galvanized-iron vessel for the honey, as the slight acid in the honey will attack galvanized ware quicker under heat than when cold, and will have a slightly dark mark on the inside of the vessel, showing that some metal properties have been assailed and liberated into the honey by the acid. Tin is all right, but not iron nor galvanized iron. If the heating is done gradually, and the honey covered so far as possible, it will be better.

Why heat at all? the inquirer asks. Because after heating, and sealing while hot, the honey will remain liquid longer—that is, will not granulate so quickly under changing temperatures. We have found that it is well to place the honey in the vessels it is to be sold in; set these filled cans, bottles, or jars, right into the cold water, and heat all to the temperature named above. Put on the caps or lids while the honey is hot; remove, and let cool slowly in a place slightly warmer than the surrounding air. Then wipe the cans clean; label, and keep in as even a temperature as possible till sold. Do not stir the honey any more than can be helped and do not expose it to the air more than is necessary, for in so doing one might

easily lose the fine aroma of the honey, since the aroma is very volatile, and evaporates easily. Overheated honey is not honey. It is not even good molasses.

In selling honey to local markets, near home, we have always found it a good plan to assure the dealers that any honey which granulates on their hands will be replaced by liquid honey or else will be removed and reliquefied free of charge—in other words, that we will keep the honey on their shelves in a liquid state. We find that the southern honeys do not as a rule candy as hard as many of those from further north, and are, therefore, not as well liked in the granulated state as those honeys that become solid. Most customers like our Florida honey best in the liquid form.

THE DIXIE BEE

Grace Allen, Nashville, Tenn.

NEWS has reached me from Bowling Green, Kentucky, of the formation of the Warren County Beekeepers' Association, with O. L. Cunningham as president. There is also a vice-president, a secretary-treasurer, and four directors. Good luck to you, Warren County!

* * *

All the discussion about sealed covers versus absorbents interests me greatly. We have never used anything but sealed covers. Spring after spring finds combs in the hives so moldy that even the bees, skillful and thrifty tho they are, destroy them rather than try to repair them. Many of the arguments for both sealed covers and absorbents have the ring of conviction that comes apparently from success with the preferred method. Will locality account for all this varying experience? What makes the difference between different hives in the same yard? I wonder if considerable unsealed stores makes a difference in the amount of moisture that condenses in the hive. I have seen water coming out of the entrances in winter, and have run a long slender stick in several hives, and had it come out from some wet all over, and from others dry. This fall I have removed a few super covers, leaving only burlap between the bees and the super of leaves, with sticks under the burlap.

* * *

We had no trouble getting three hundred pounds of sugar at $8.75; but when I decided we would need another hundred I was told of orders not to sell more than twenty pounds to a customer. This was a very recent order, however, and the grocer knew I wasn't buying it to store away; and so when I told him how Washington had sent out letters to beekeepers, urging especial care in putting bees into winter quarters, to help get a record crop next year, he sent me the other hundred at $8.50, which put our little yard in pretty good shape as to stores.

Trying out the situation in regard to buying soiled or "salvage" sugar, for feed, Mr. Allen visited several wholesale grocers one day this week, without success. One of them said that the little they had that spilled out or got rained on or otherwise met mishap was sold at a low price to the negroes helping around the store. They dried it, he said, or sifted it, etc., and were always glad to get it for use at home. "No salvage sugar for our Italians," Mr. Allen reported that night; "it all goes to the blacks."

* * *

THE CLOSE OF THE YEAR 1917

Dying, at last, this terrible year,
This tragic and terrible year.
And children in far-off peaceful days
Shall look from their books in startled amaze
To say, "But, Mother, are these things true?
Did children like us and mothers like you
Starve? And did death drop down from the sky?
Did millions and millions of fathers die,
That terrible year?"

Dying, today, this glorious year,
This stirring and glorious year.
And the youth of a fairer juster day,
With proud exulting eyes, shall say,
"They rose, my peaceable people, at length!
Quietly rose in their ancient strength;
With hearts aflame and flags unfurled
They marched to make a safer world,
That glorious year!"

Dying, so soon, this beautiful year,
This fleeting, beautiful year.
In times to come if people shall say,
"There was nothing desirable, day after day"
Oh! I shall be a voice that sings,
"Bees with gay adventurous wings
Hummed and hummed! spring brought flowers
And dawns and dreams and sun-lit hours
That beautiful year!"

That beautiful, terrible, glorious year—
That strange bewildering year!

* * *

We are quite an experiment station this fall. All hives have contracted entrances. There are hives with no other winter attention; hives with supers of leaves only, with supers of leaves and paper wrappings, with

supers of leaves and contracted brood-chambers; one-story hives and two-story hives; hives moved over into an abandoned scratching shed, protected on the north and west; hives packed in single boxes with plenty of leaves around; and one quadruple case made at the mill. This case, delivered in the flat, to be put up with bolts, cost $6.50, while the roofing paper for the cover cost 83 cts., making $7.33. Probably the paint will bring it to about $8.00, a packing price of $2.00 per hive. Ten pounds of honey from each colony, over what it would have stored without the protection, will pay for the case.

Mr. Editor, on page 831, November, you mention the advantage of reducing a ten-frame colony to six or eight combs, and packing both sides of the brood-chamber. Does this advantage apply only to double-walled hives? Would not the same principle hold in single walls? I happen to have done that once to a rather weak colony, putting a cushion of leaves outside each division-board, and adding a super of leaves on top. The little colony came out booming—with no moldy combs. But they tell me that the thermometer tests at Washington prove it to have been just exactly as good as no packing at all.

AMONG THE ROCKIES

Wesley Foster, Boulder, Colorado

At this writing, Nov. 1, preparations are being made by many beekeepers to pack their colonies in winter cases. Some have already completed their packing, while others have just begun. A late open fall has given ample time for making the cases and putting the bees into them.

ALMOST ALL THE HONEY SOLD.

The price of honey has held up better than expected, and there has been a steady advance. White extracted has been sold at 14½ cents in carlots, and little doubt is felt that this will advance another cent before January 1.

Comb honey has been about all cleaned up, the last carlots going at $4.00 a case for the fancy, $3.85 for No. 1 and $3.70 for No. 2, f. o. b. western Colorado. Comb honey is selling in case lots at $4.25 to $4.75; extracted honey in case lots at 15 to 18 cents a pound.

There are not more than five or six carloads of extracted honey unsold in the producers' hands, and the writer does not know of any carlots of comb honey unsold. People will either pay more for honey after January 1 or they will go without.

The high price of honey has already had a stimulating effect upon the price of bees. Apiaries well located are in good demand at high prices. Extracted honey will be more largely produced another year, and it now appears as tho comb honey might almost become a thing of the past, even in Colorado, where comb honey has had such popularity.

SAVING BEES OR BUYING THEM.

The package business has been a uniform success wherever tried; but the difficulty has been in getting the bees delivered. So far, half to two-thirds of the bees shipped into Colorado in packages have arrived dead or in a smothered condition.

My opinion is that winter packing will largely take the place of shipping bees in packages. If we would only save what bees we have in the fall and bring them thru strong in the spring, we should not need to ship in packages. The winter packing is much the cheaper way.

THOSE WHO HAVE GONE TO THE FRONT.

The beekeepers of Colorado, no less than those of other states, are having their younger members taken by the draft. This is a matter that should have our careful attention. Our young beekeepers are having to close out their business at a great loss, and we as a fraternity of beekeepers should devise a means of helping such soldier beekeepers.

Why cannot the Colorado beekeepers' associations raise a good big fund either to purchase the apiaries of drafted members or help in providing competent beekeepers to care for the apiaries while the boys are away? In some instances other members of the family can protect the investment. But in other cases, I know the beekeepers could help wonderfully if they only would. It is our duty to do as these boys have done —sacrifice until we feel it. Why cannot the beekeepers who have prospered by the high price of honey tax themselves, say five per cent of their income for this work? The writer is ready to do his part.

The boys already drafted are: Clyde V. Fisher, Montrose, Colo., secretary-treasurer Montrose County Beekeepers' Association; Wells Pollock, Allison, Colo., secretary San Juan Beekeepers' Association; E. C. Polhemus, Lamar, Colo. There are doubtless others, of whom I have not learned.

Beekeeping as a Side Line

Grace Allen

ALWAYS and everywhere, the world over, there have been conservatives and radicals, progressives and stand-patters. It is almost impossible to read foreign politics without constantly feeling the personalities of the opposing leaders of the conservative and the progressive elements. History is full of them, so too are religion, politics, industry, and the social customs of civilization. Together they make for the steady advance of the race. The radicals keep us from stagnation and the conservatives withhold us from reckless ruin. Naturally enough the majorities are usually solidly conservative, and so progress comes slowly, safely.

Once there was only one man in the world who believed that world to be round; there was once only one who had faith in a "passage to India;" only one who dared nail theses to church doors. Not many years ago woman's suffrage, profit-sharing, and prohibition were mere dreams in the hearts of a devoted and unpopular few. This generation is seeing them come into their own. The conservative majority that clings to the established order of things it was born to, forgetful that it too was once a daring dream, is slowly and awkwardly coming forward, reluctantly, painfully, climbing up into the high places to which these visionaries have led. And there, you know, it will settle, content, and the oncoming generation will find this new point of progress, the established order of things, to be clung to and cherished, and in its turn relinquished most slowly in answer to the patient, eager call of the dreamers and leaders of a fairer day to come. A world-old process it is, thru which God is teaching us to become perfect. And there is no line of human activity thru which it does not surge.

Even among beekeepers — even among sideline beekeepers and amateurs—there is this same tendency to settle into ruts, and smile amusedly at new ideas, when all these well-recognized methods with which we are so satisfied were once new "notions" themselves, smiled at with equal amusement by the beekeepers of an older day! What a hopeless radical and dreamer was the first man who ever "kept" bees at all! How some ancient people must have smiled at the idea of an artificial house for wild bees. Then, doubtless, they became popular. Gradually these first man-made bee-shelters have changed with the changing years. Then in the day of skeps and boxes came the absurdity of movable frames. Everybody smiled; now everybody uses them or is called unprogressive.

And are we now settled to our own satisfaction? or is the open mind become more of a habit with the human race—with that part of it with which we are chiefly concerned—the beekeeping fraternity? Somehow I believe it is, and I make my appeal to this growing spirit of open-mindedness. How the journals help! Their columns are generously open to everything progressive, to the discussion of all methods, old or new. Shall we readers shake our heads and say, "The way I am doing now is good enough for me"? Or shall we be always eagerly alert for a higher degree of skill, a wider understanding, a new vision of possibilities? Nor would this necessitate being swept off our feet by every curious scheme put forth. Let us not waste our seasons in riotous experimenting; but do let us read carefully, listen thoughtfully, and give unprejudiced consideration to every new suggestion.

The Department of Agriculture has established a division of beekeeping and put it in charge of educated, scientific investigators. The man who merely grins and says, "No sense in pampering bees that way," is akin to the mountaineer who was advised to keep hogs that would develop more quickly than his razor-backs, and set aside the suggestion with the drawled retort, "What's time to a hawg?"

While beekeepers who read GLEANINGS do not use razor-back methods, still we are far from the end of improvement in this ancient and fascinating pursuit. A hundred years from now men may smile at our antiquated ways and our limited results. Let us keep always in the line of march. We sideliners especially can experiment in a small way with certain well-advised new methods. Wintering, is it? We can get one quadruple case. Or we can easily try Mr. Demuth's scheme, page 842, November GLEANINGS. Or we can contrive single cases out of boxes. Windbreaks? Perhaps we can set our few bees over on the south side of some fence or old shed for the winter. Or, what is still more thorogoing as an experiment, we can so move only part of them and compare results.

TWO EXTREMES CLOSE TOGETHER.

If "the time to study wintering is in the spring," then the time to study "springing" may be the winter. And that we expect to do somewhat in the next few months. Somehow the spring sets the keynote for the season. It determines which is going to be boss—the beekeeper or the work—order or disorder—care or neglect—beauty or ugliness. We have with us this month the pictures of two backlot apiaries. Notice the contrast. The backyard that was so utterly overgrown with weeds was very unattractive; but it isn't just a question of looks. The neglect that allows hives to be so choked in weeds is pretty apt to be an indication of the neglect that allows lots of other things.

The owner of that weedy beeyard bought two colonies in 1914. He has increased to three. One of these is so weak it will scarcely be able to come thru this winter. This will leave him where he started. He has no extra hives, no smoker, no tools. He bought quite a supply of sections, but no foundation. "I fixed up their little boxes," he explained, "and put 'em in, but I reasoned that wild bees make honey without anybody givin 'em any wax to start it with, and these could too." So they did. And you can guess what it looked like. He has had about thirty pounds, all told, for his family. What is still worse, he is satisfied with this. True, he hasn't much of a location, and there have been no really good seasons for years, yet it's hardly that bad. Of course he has no books, and subscribes to no journal.

The other yard is only about a block away. In 1913 the owner bought one hive and "A B C and X Y Z of Bee Culture" and subscribed to GLEANINGS. The next year he bought five more colonies and has now twenty-five. He has an extractor, uncapping-can, a goodly supply of supers, containers, foundation, and necessary tools. He has taken off about twelve hundred pounds of honey all together, and realizes keenly how little it is. While he knows his location isn't very good, he hopes to improve his methods until he can obtain better crops. And he will. You can see from the picture that the hives are well painted and in good condition. The grass around them is kept clipped. So are the queens; tho, for that matter, he says that he has had only two swarms and no winter losses at all (in Tennessee, too!).

Speaking of crops, a local sideliner asked me today what beekeepers meant when they said they averaged forty pounds, or twenty, or a hundred. I told him I wished I knew. When they say they average forty pounds, spring count, I do know. When they say their producing colonies average forty pounds, I do know. But when they just say forty pounds, it leaves us guessing.

* * *

A dashing young beeman today
Got married, and all his friends say
He surely can't mean
To usher *this* queen
To her home by the starvation way.

Quite hidden in the weeds are the neglected colonies shown in the first picture. The entrances to the hives are utterly lost in the tangle. The view at the right shows part of a well kept back yard apiary scarcely a block from the other.

FROM THE FIELD OF EXPERIENCE

Conversations with Doolittle

"Why don't those who write articles for the bee-papers get them up and have them printed so that they will be seasonable for the readers just at the time they appear in print? It is rather provoking to read in the December number an excellent article about how to manage swarms, or one on selling our crop of honey in April and May. One of the reasons for admiring your articles in GLEANINGS has been that many of them come to me at just the time when they are the most applicable."

It is a difficult matter to have everything seasonable that appears in our bee-papers. Some discussions are started when the subject is seasonable, and then the debate runs on until the subject has outlived its usefulness, or become unseasonable—possibly both. Then when a man has had some interesting experience with the bees he is inclined to tell it while the "fever is on," or not at all. By the time he has written it out and sent it to his favorite paper, and the editor has it in type and room made for it, and the printed article greets the eyes of the reader, the time for profiting for that particular knowledge has passed for that year. Then, unless this especial article has been "pigeon-holed," by the time another year brings the proper season for that particular article it will probably be forgotten unless it happens to be of an unusually important character. Doubtless it has never occurred to very many readers of our bee-papers that the last publication received should contain just the seasonable information wanted, as is evidently the thought of our questioner. I know that it would be ideal to have the June GLEANINGS give directions for the care of a swarm that might come out just when I was reading about it; but we can hardly expect that the publishers of GLEANINGS could have all the matter of our June number entirely seasonable for that month.

In order to put us in touch with all the topics discussed in GLEANINGS thruout the year, we are furnished, at the close of each volume, with an index that tells us just where to find the information we want. However, this may not be in the last completed volume; and we may be compelled to refer to some older volumes. But if we have been careful to keep all the volumes in good order we can, by turning to the indices, find almost anything we want. With perhaps the exception of one or two numbers of one or two volumes, I have GLEANINGS perfectly complete since the first issue.

If, during the busy season, I find something that I would like more time to read, I jot it down in a little book I carry with me; and when the leisure of winter comes, these old volumes are looked over to see what has been said on these particular subjects. Then what I read is boiled down to the smallest compass and jotted down in another book which I keep for the coming season. In passing, allow me to say that, in this way, I find that much which is written as something new was brought up and discussed from 20 to 45 years ago.

Besides the above, I have a way of indexing when reading an uncompleted volume. If I find anything I wish to use or refer to again I note it down in my index; and so in a brief space I make seasonable such matter as I wish to refer to again. For instance, in December I found something about swarming that struck me as better than what I have been accustomed to, therefore I turned to my index book, and under June 1 put "G. 16, p. 257. New about swg." Then when June, 1917, came, the past season, along about the tenth of the month I looked at GLEANINGS for 1916, on page 257, and there found just what I wanted. If the item was on selling a crop of honey, then the index for October was used, and so on. When tried, if it is better than anything I had used before, such index is underscored. If of value, but no better, it is left untouched. If of no value, a mark is drawn thru the whole. In this way I have indexed nearly all of the volumes, so that I can turn to all the really good things of the past 45 years, or find that which I have considered valuable during all of my beekeeping life.

Now a word about my articles in GLEANINGS being seasonable: In December of each year I go over all the questions which have been sent in, and, in accord with *my* views, sort out for each month that which I consider seasonable for the month; then during the winter, as I have leisure days I write the matter up, using my index if necessary to help refresh my memory. Occasionally the editor does not seem to agree with me, or for some reason puts in an article for a month for which it was not intended; and where this is done it throws the other articles "out of joint." But I always calculate the editor knows better than I in these matters.

Borodino, N. Y. G. M. DOOLITTLE.

FROM THE FIELD OF EXPERIENCE

Letters from a Beekeeper's Wife

Winter Quarters, Dec. 1, 1917.

Dear Sis:

We have just had a funny experience that I must tell you about, while I wait for my bread. Did you ever notice the first meeting of two strange beekeepers? I have, often, and it is most curious how little it takes to get them around to bees. Then! Bing! Something happens! Some small cord is freed in each man's bosom, that reaches out and wraps itself about the other fellow's heart, and draws those two close together. I have never known it to fail. The secret bond between keekeepers makes them bosom friends at once, and the stream of conversation begins to flow. It would flow on forever, I'm sure, were it not for beekeepers' wives, who have a way of announcing meals or bed-time.

Rob is always delighted to see a "brother" come up our lane and he always keeps him as long as possible. I know exactly the trend of the river of bee-talk with all its ramifications and branches and I must say that I enjoy it, and join in occasionally too. They always begin with the last season's crop—why it was large or small—what it was in other parts of the country—then comes the honey-flow and the weather during it, then to sources of nectar. After that they compare strains of bees, warm up to methods of wintering, queen-rearing, and disease. By this time day is waning and supper interrupts. The visitor tries to be polite and inquires about the children's school, but his mind is always on bees and he will probably interrupt my reply by turning to Rob with "Oh! by the way, did I tell you that I am trying out a new winter case?" It is so hopeless that we let him go and the stream wanders back to its accustomed bed. After supper they discuss the last national convention, then to personalities, find mutual beekeeping friends, until I go to bed. (They never notice my slipping out for they have begun on the relative merits of comb and extracted honey and that is an endless subject!) I hear the drone of their voices until I sleep, and in the morning when I say accusingly to Rob, "What time did you come to bed?" he always replies in a shamefaced way, "Oh! about half-past."

What I began to tell you was that last week an odd-looking man with a heavy, black beard and slouch hat came to the door to inquire his way and Rob stood talking to him a few minutes. Then they sat on the steps and talked more, and I gathered from what I heard that he was a beekeeper. Soon Rob came into the kitchen and said, "Put on an extra plate. Mr. Samson will stay to supper." I whispered, "Why, Rob, you don't know a thing about that man. He may be a robber or a murderer, for all you know!"

"Well, I know he is a beekeeper," Rob replied, and that settled it. Come to think of it, beekeepers as a whole are about as respectable and honest a group of men as you can find. I noticed at the State Convention how few of them smoked, and I know of many clergymen who keep bees. In foreign bee journals you will often see articles signed "Abbe ——" or "Pastor ——," so I believe that is the case in other countries too.

The strange Mr. Samson did stay to supper, and not only that, but over night! I put him in the guest room, much against my wishes, but I put the silver spoons under our bed. I'll trust bee-men pretty far, but not to the extent of leaving my silver downstairs. Our guest seemed very grateful for our hospitality and went off the next morning, he and Rob the best of friends. I couldn't feel just right toward him because of his brigand-looking beard, I think; but this morning the nicest letter came from him on paper engraved "Beechwood Apiaries" and with it was a little bank shaped like a bee-hive for Billy, with a five-dollar gold piece in it! I'll never suspect a beekeeper again of trying to steal my silver spoons!

I will write again before Christmas, but let me say that one of my New Year's resolutions is to be that I shall not mention bees to you again in my letters, for I know you must be tired of them! My bread is riz, and I fly! MARY.

Benefits from Co-operative Association

After existing for twenty-five years merely as an organization, and giving only such meager benefits as could come from an annual meeting with the Farmers' Congress at College Station, the Texas Beekeepers' Association has begun an active campaign of education in co-operative effort under the new name of The Texas Honey Producers' Association. It bids fair to become

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one of the most profitable co-operative societies in existence for any class of men.

The advent of the co-operative idea into Texas beekeeping began in July of last year when 79 beemen from 19 Texas counties met in San Antonio to discuss marketing conditions as they affected the honey-producers. A project was at once launched for every producing center to organize under one head for the purpose of buying for its members all beekeeping necessaries at reduced wholesale prices, and to sell their crops at great advantage thru the elimination of middlemen and brokers. In addition a bureau was established to answer difficult questions on beekeeping, to assist in getting the best price for honey and wax, to teach the best method of packing and shipping, and to keep members advised of prices and crop conditions in other producing centers. This service is not only given free to all members, but on application any beekeeper is gladly accorded the same information.

Most important of all, perhaps, has been the adoption of a selling plan by the directors of the new association. A sales manager solicits orders for honey of guaranteed association pack and grade, and sends these orders to the members for direct shipment under the registered trade-mark label. Under this method the secretary receives and solicits orders, both great and small, for honey, bees, wax, etc., from all parts of the country, together with the price the prospective customer will pay.

Each member makes a report of the crop he wishes to sell; when it will be ready for movement; its kind, quantity, how it will be packed, and the general conditions in his locality. With a tabulation of this information the selling agency can at once arrange a "get-together" with the proposed buyer in distant markets. Among the advantages of the plan are these: The sale is made with practically no expense to the seller; he gets the best possible price; the produce is shipped direct to the consuming market, which does away with much leaking and breakage as well as rehandling charges; no market is permitted to become glutted with an overstock and a consequent lowering of price; buyers are assured of uniformity of grade and packing; the buyer has to pay freight on the shortest possible haul; and he gets the goods quicker and with the least expenditure of labor.

For many years—and, in fact, until the Farmers' Congress meeting this summer—the Texas Beekeepers' Association was, practically speaking, only of nominal benefit to the industry. Much good naturally accrued from the meetings and reports of the society; but the actual benefits, compared with those of the present, were small. Last year it was determined to try out the plan explained above, and from the first it was a great success. It has been tentatively in operation for fourteen months, and at the meeting this summer it was wholeheartedly endorsed by the unanimous adoption of the following resolution:

Whereas, The Texas Beekeepers' Association and the Texas Honey Producers' Association are two bodies with practically the same membership, and

Whereas, Both bodies hold an annual meeting, and expense could be saved by meeting at the same time and place, therefore be it

Resolved, That for affiliation with the Farmers' Congress these two bodies be consolidated, and that the name of the affiliated body be called in future The Texas Honey Producers' Association.

The annual meeting will be held in San Antonio, in November of this year. It is probable that at this meeting the members will demand a further branching out in the line of supplies, and ask that the association purchase all commodities used by the beekeeper, and handle them as it now does the few purchases made thru the secretary. This will mean that hives, cans, foundation, queen-bees, and, in fact, everything needed to secure a year's harvest, will be furnished to the members at a co-operative saving in price.

One of the salient features of the organization is its work to give beekeepers a better and more stable price for their produce. The system of making direct sales thru a central office greatly increases the selling prices. The fact that beekeepers have been getting too low a return for their product when compared to the price paid by consumers has been time and again emphasized by the agricultural press.

Not only by personal work and selling effort does the association benefit its members and the beekeeping fraternity at large, but a great deal of educational work is accomplished at the conventions held annually in College Station and at San Antonio. Altho the audiences may be limited to 50 or 100 persons, many of the best plans and suggestions are made there, and every mem-

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ber is enabled to reap the benefits in the printed report. This embodies all the speeches, plans, and so on, presented at the meeting, and gives the details of all important matters accomplished by the association thruout the year.

There are no annual dues. Membership shares are $10.00 each, and ownership of one share entitles the holder to all rights and privileges of the organization. Any person may purchase a number of shares up to 100, which is the limit of individual ownership. Fifty per cent of the amount subscribed must be paid in, the remainder a year hence. Five dollars, paid now, will entitle any beekeeper to full benefits. After $10.00 per share has been paid, no further obligation is assumed. Profits of the association are rebated to members in proportion to business done. Most of the larger honey-producers of Texas are back of the movement, and it is hoped that every beekeeper will become aligned with it. Every man interested in Texas beekeeping, either directly or indirectly, is cordially invited to become a member.

The officers are Louis H. Scholl, New Braunfels, President; Willis C. Collier, Goliad, Vice-president; E. Guy LeStourgeon, San Antonio, Secretary and Manager; A. M. Patterson, Cashier Adams National Bank at Devine, Treasurer. The other directors are: Wiley A. Winters, Jourdanton; Richard Voges, Poth; Aug. E. Saathoff, D'Hanis; and Alfred L. Hartl, Elmendorf. The officers and directors are elected annually by the membership at the San Antonio meeting in November. The manager and treasurer are each under a bond of $10,000. The address of the secretary is Box 1048, San Antonio, Texas. Bylaws and plan of organization will be gladly mailed to any beekeeper who is interested. Come with us and help in this great work. E. G. LESTOURGEON.

[The foregoing was submitted to the secretary of one of the prominent co-operative associations in the East. His remarks are so interesting that we take pleasure in presenting them herewith.—ED.]

I think the proposition a good one, but the following points will be necessary to make it a success:

1. That most of the members be large or reasonably large producers.

2. If the market or markets be far away, that shipments be made in carlots.

3. Last, but most important of all, that the volume of business transacted be large, that a strictly capable business manager be in charge, and that all grading standards be strictly adhered to. If any of these last three parts are lacking the plan will probably result in failure.

Akron, N. Y. WILLIAM F. VOLLMER.

Using a Capping-melter in the Winter

To all who are engaged in the production of extracted honey at all extensively, the question of how best to dispose of the cappings is quite an important one. A number of capping-melters are on the market, and some beekeepers use these melters continuously while the extracting is being done, mixing the honey from the melter along with the general crop taken from the extractor. While a few report satisfactory results from this system, many others, after trying the method, have discarded it as unsatisfactory. Personally I have yet to see the melter that will turn out honey without having a slightly cooked flavor, and I believe about all the different makes have come under my notice.

In using one of these melters a few years ago in our own apiaries, we found these unfavorable conditions in connection with their use at the time of extracting: i. e., when cappings were melted as fast as taken off the combs, and the resultant honey poured right in with the rest from the extractor, the honey was off in flavor and color, no matter how rapidly it was cleared from the machine; if strained, waxy particles in the hot honey would clog up our strainer cloths; if poured in tanks without straining, then waxy particles would be found all over the inside of the tank; and even when strained we found, after putting the honey in pails, that minute dark specks came to the top.

Then, again, our honey-houses at some of the out-apiaries are none too large; and with the heat generated by the stove under the melter it is really too hot to work in comfort on very warm days—the kind of days in which extracting is most easily done. After using the melter for taking care of cappings from about 40,000 pounds of honey one season, we unanimously voted it not a success, and since then we have been draining our cappings as best we could, and then storing them in barrels till winter, disposing of them at our leisure during the slack time.

Some years ago we used to wash the cap-

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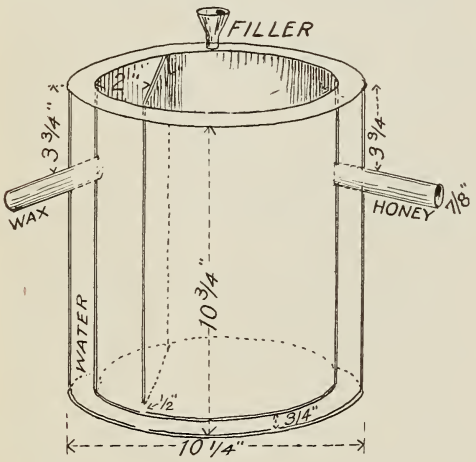
pings out and use the sweet water for making vinegar; but we soon came to the conclusion that there was no money in the game, as new barrels have to be used with each batch of vinegar, and moreover honey vinegar costs too much. Since then we have been running the cappings thru the capping-melter, and as a rule the honey obtained has been kept and used for spring feeding whenever necessary. Of course the honey before being used has always been diluted with water and boiled. One of the objections to using the melter in this way is that it is always a sticky and mussy job to remove the wax from the honey, for, as all will understand, the wax and honey run out together in one receptacle.



During the past week or two we have been using with much satisfaction a little invention brought out by Mr. Armstrong, of Selkirk, Ont., which does away with a lot of the bother in separating the honey from the wax, and the honey thus obtained is surprisingly free from any foreign matter.

This invention is very simple, as will be observed. It is a double boiler made of galvanized iron, and of the following dimensions: Height, 10¾ inches; diameter, outside measure, 10¼ inches; water-jacket, outside and bottom, ⅞ inch. The bottoms of the two outlets which pass thru the water-jacket are each 3¾ inches from top of the separator. These outlets are ⅞ inch in diameter and have a projection of 2½ inches.

A sheet of galvanized iron is soldered to the inside of the separator, and runs to within ½ inch of the bottom. The center of this sheet is just 2 inches from the side of the separator, and opposite the spout.

The small spout at the top is for pouring in hot water when starting operations. A funnel-shaped top would be quite an improvement.

After filling the separator with hot water the wax and honey will start to run from the melter. In a warm room it will require no more heating all day if the melter is going steadily. Wax and honey are together in the wide apartment in the separator; but the honey, being the heavier, enters under the half-inch space at the bottom, while the wax stays in the large compartment. As the separator fills up, the wax runs from one side and honey from the other. The honey comes out so clear that it will surprise you; and the first ten or twelve pounds of wax will be fit for market. After that, an accumulation of slumgum will unfit the wax for market. With a wire-cloth dipper to take out the slumgum, one might have most of the wax fit for market; but in our case we did not try this, but remelted most of the wax and ran it thru the press after all the cappings were melted.

We ran five large barrels of cappings thru this separator last winter, getting 350 pounds of wax and over 700 pounds of honey, and we are much pleased with the separator idea. At the close of the day's operations we never emptied out the separator, preferring to heat it the next morning before starting, and thus avoid any chance of wax getting over into the honey side of the separator.

J. L. BYER.

Markham, Ont.

[Our correspondent refers to boiling the honey that is used for feeding in the spring. It needs to be frequently reiterated that where the possibility of disease exists, mere boiling is not sufficient. Recently Chalon Fowls reported that, as much as twenty years ago, he bought a quantity of honey, and, after washing out the cans and carefully boiling the mixture, he fed it to his bees, with the result that 12 colonies contracted foul brood. It is always a good plan to reboil just before feeding.—ED.]

Modern Imbedding with a Ford

Having about 2000 frames wired, and the foundation inserted in the top-bars, I made an electric wire-imbedder that imbeds all three wires. Some may ask, "Why only three wires?" I may as well state now that, as the top wire is so near the top-bar, I do not consider it at all necessary and

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Imbedding wires in comb foundation by means of electricity furnished by Ford auto.

therefore leave it out, but the main reason is that I desire to have the two ends of the wire at opposite ends of the frame.

I made two frame-blocks on a box by taking a half-inch board (7½ x 16½) blocking it up in the center with a piece ⅞ inch thick, and then nailing on each end a strip ¼ inch thick, thus forming a concave surface. The rounded part along one edge, where the top-bar would come, I planed, so that the wax would not have to follow the curve.

The Ford used was a 1916 model. I took two insulated wires, connecting one to the terminal attached to the horn and front lights; the other wire I grounded on the engine anywhere. (Warning! In imbedding wires do not use the batteries in connection with the Ford magneto). I ran the motor at a speed equal to about twenty miles per hour, using a little less than two gallons of gasoline to 1000 frames.

Altho we have great prospects for the little manager sitting in the high chair, still at present my wife is my best helper. She puts the frames on the blocks and takes them off while I apply the current by means of a wire from the machine wrapped around each of my index fingers so that I can touch the opposite ends of the frame wire. When the wire becomes hot I press down firmly on the frame over the concave block, at the same time disconnecting the current by taking one of my index fingers off the frame. In this way we were able to imbed the wires in 210 frames in one hour. An auto equipped with a storage battery would make it much cheaper, I believe.

The lattice-frame device hanging on the box I use to cut one-inch starters for the frames, cutting five sheets at a time with a good sharp knife.

Joliet, Ill. EDW. A. WINKLER.

Reducing City Current for Imbedding Wires into Foundation

When I read the article in April GLEANINGS about imbedding wires into foundation by electricity, using the city current, I was interested. I am not an electrician, but my fifteen-year-old son is well up on the subject, being as much of a wireless enthusiast as I am a "bee crank."

I asked him if he could make a wire-imbedder for me. He began a "spiel" about transformers, amperes, watts, volts, ohms, resistance, rheostats, high frequency, etc., when I interrupted him and told him I was not applying for a course in electrical engineering; what I wanted was a "doo-flicker" to imbed wire into foundation, and in making it we must bear in mind the high cost of living. He said, "I get you," and disappeared.

In about fifteen minutes or so he returned with the outfit as shown in the cut. He said, "This will cost you the rent on a pint Mason jar. If you do not care to go in that heavy, we can perhaps find a broken bottle."

After trying this outfit, I believe it is every bit as good as an adjustable transformer costing several dollars. Any one can make this in a little more time than it would take him to read this article.

Take a strip of inch lumber about an inch wide and one foot long. Tack two pieces of tin one inch long at the right distance apart so they will come in contact with the tacks that hold the ends of the wire in the frames. Drive two nails thru the wood from the opposite side until their points come in contact with the tin.

Then take a piece of flexible electric-light

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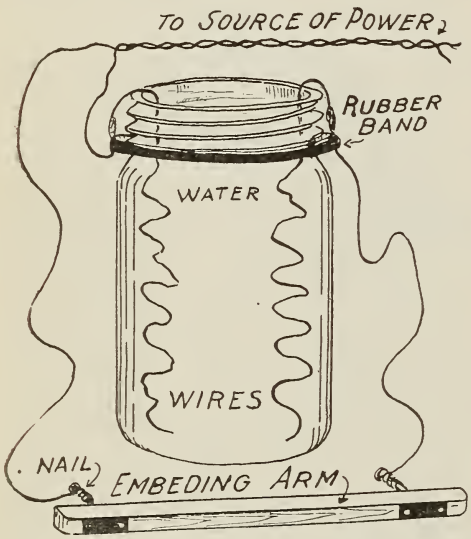
cord long enough to reach from your light-socket to your work-table; untwist about two feet of it and fasten the ends of each strand to the nails that go thru the wood. Cut one strand about one foot from the wood; place the two ends that are cut in a Mason jar filled with water, being careful to keep these ends from touching or you will blow a fuse. These ends may be held in place with a rubber band or a string. The electric current, having to pass thru the water, will become reduced so that it will not heat the wires too hot. Where the wires enter the water it is well to fasten them to two coarse wires run down to the bottom of the Mason jar.



The other end of the cord that is not untwisted is connected to the light-socket and the current turned on. Then pick up the wooden piece; place it so the two pieces of tin will come in contact with the two tacks that hold the ends of the wire and the electric current will pass thru the wire and it will become hot. If you use pure water the heat will not be sufficient. To increase the heat put a little table salt in the water until the heat is just right. Too much salt will lessen the resistance and the wires will become too hot. About half a teaspoonful is right for a 110-volt alternating current.

I do not know whether all will understand just what I am driving at or not. I tried the description on my wife with rather indifferent results; but by a little study and experimenting, I think you will have no trouble.

Vincennes, Indiana. JAY SMITH.

Making Increase in September

"You are a bigger fool than I thought you were." That is what Wm. Atkinson, Selkirk, Ont., said to me when I told him I had been making an increase of some sixty colonies during the first week in September. (This Mr. Atkinson is the man who designed for winter cases a safeguard from sun, snow, and wind, as described in GLEANINGS, page 763, October.) The only comfort I could get out of his opinion was that in his estimation I had, until then at least, not yet reached the extreme of folly.

No doubt there are others (for I have come across them) who think September in Ontario or Canada, or even thru all the northern and middle states, to say nothing of the South, is a wrong time to make increase. With this I do not agree; and when I told Mr. Atkinson how I made the increase he came to the conclusion that the method had embodied in it much more wisdom than folly.

The season's operations crowd pretty hard upon our heels from early spring to fall; and altho a student this summer said that I took good care that no one about me went to sleep during working hours, yet it is often a difficult matter to keep ahead in our work. This is especially true if frequent rains make our heavy clay roads temporarily impassable for automobiles and motor trucks.

Just as circumstances drove me to outside wintering (which I found far superior to cellar wintering), so circumstances well nigh forced me to make increase in September. I wanted the increase, and yet I did not want to sacrifice any of my honey crop. I intended to make this increase two weeks before the surplus honey-flow was over; but from that time until Sept. 1, I had too much to do to undertake it. (We have no dark autumn honey-flow—absolutely none.)

HOW TO MAKE IT.

If one's bees have been kept together, there will be many colonies in front of which there will be large clusters of bees hanging after the supers have been removed from the hive. These are the ones from which to make the increase, the preference being given to 12-frame hives; but 10-frame Langstroth hives also answer the purpose perfectly. The colonies are divided in two, placing half of the combs at one side of the new hive, taking with them the adhering bees; and if this does not prove to be half of the swarm, still more bees are

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added to them. The two hives are given the same number or letter in order to keep track of them. If the queen is found she is given to the new colony and a young queen introduced to the colony on the old stand. If the queen is not quickly found I look them over three to eight days later; and if queen-cells are discovered, it is not necessary to look into the corresponding number. Again, if I find the queen in the hive (unless supersedure has taken place), there will be a young queen required in the corresponding number. In any case, young queens are introduced to the queenless colonies. You will notice I call them "colonies." Yes, because they are quite strong enough to make a full colony. I have had the bees hanging behind the division-board when it had eight or nine combs in the hive. That is a colony, is it not?

"Ah!" you may say; "but just wait until the old bees that have already located themselves go back to the old stand." Now, I like to please people when I can do it without injury to themselves and without too much injury to me; but I will not wait until the bees return to the old stand and thus destroy the normal division of the colony. If I could not overcome this tendency I would not attempt to divide them early in September. I just close up these hives; and when I get a load of them I take them to another apiary where they will not return.

There are old and young bees in each hive—brood in all stages, also pollen; and if there is little or no honey, which is often the case with a 12-frame hive, they are fed syrup.

If one has no out-apiary he could probably get a place in which to put his bees for a few weeks and then return them home. I remember the first winter I had such colonies; and during stormy winter nights I wondered how it fared with them. The next spring I found they had wintered just as well as any of the others. This is now the third winter that I have tried the plan, and it strikes me that I have found an excellent way of making increase, and that perhaps I am not as big a fool as I seemed to be from surface indications. R. F. HOLTERMANN.

Brantford, Canada.

[If a beginner attempted to do a "stunt" like this he would be pretty apt to fail. Moreover unless the colony is an exceedingly powerful one we should expect that one or the other of the divisions—possibly both, would be too weak to winter.—ED.]

Introducing by the Honey Method

Time and again has the beekeeping world tussled with the problem of introducing queens safely; but for me the knotty points have finally been cleared up. The plan has proved a 100 per cent success in my apiary. It takes only five minutes, and does not require an expert. I have lost several fine queens by the cage method, and one of my strongest colonies by the smoke method. I know that I am not an expert on smoke, and I expect never to try it again. I can introduce a queen by the cage method in from 30 minutes to 15 days, telling by the action of the bees on the cage when they will accept her. Yet neither of these plans really suits me.

Mr. F. M. Baldwin, from Sanford, Fla., visited me several times this season; and as we were looking thru my bees I showed him a fine queen that I had had in the hive for eight days. At that time the cage was as large as your fist, with bees; and the longer the cage stayed in the hive the more the bees balled it. "Well," Mr. Baldwin said, "just get me a cup of strained honey and I will put her in, in three minutes." Now, I was willing to lose the queen in order to learn something; but I was certain her doom was sealed. Mr. Baldwin took the queen out of the cage and put her in the cup of honey, smearing her around and around until she was completely covered and looked as tho dead. Then he poured her down between the frames.

This was on Friday, and on Monday we looked for the queen and found larvae in the cells, thus showing that the queen went to laying immediately. Look at the time saved by this method, and the time lost by the cage method and others. Since then I have tried this method with 45 queens, some being virgins, and yet the plan has never failed. Sometimes I have cut the queen-cells out and put the queen right in. This morning I removed a virgin from a hive and introduced a queen by the Baldwin method, and in one hour she was laying. By other methods there are a great many queens lost, but I believe that this plan will prove at least 95 per cent successful for all beekeepers, whether experienced or not. By the honey method the queen is in a stupid condition; and by the time the bees lick her off all excitement is over and everything quiet. When a queen is released from a cage she runs excitedly, while the bees pursue her; then she begins to pipe from fear, and immediately they ball her.

Roanoke, Va. HENRY S. BOHON.

STRAY STRAWS

Dr. C. C. Miller

SHALLOW extracting-supers are so objectionable that it is agreed that the majority of beekeepers would quit beekeeping rather than to use them, p. 850. I question that. To be sure, not many use them. But can they judge very well without trying? I never used them; but the use of them would not drive me out of the business. Indeed, if I were beginning afresh at beekeeping I'm pretty sure I would use them. Mr. Finley and Miss Fowls have made out a very strong case in their favor; and another point, if I am not mistaken, is claimed by the Dadants, and that is that with them a queen-excluder is not needed. The fact that such successful and extensive producers as the Dadants have used them for so many years is a strong argument in their favor. [It is our experience, based on extensive travel over the United States, that shallow extracting-supers are not under the ban of a majority of beekeepers. Where seasons are short, and colonies of only medium strength, the shallow super certainly has its advantages. A full-depth Langstroth super is often too much of a good thing. The question of shallow or deep supers is largely a matter of locality, individual preference, and sometimes of what one happens to start with. A beekeeper, for example, might happen to buy up a yard equipped with shallow extracting-supers only, and, of course, he will continue to use them.—ED.]

REGARDING the plan recommended by W. E. McEvoy, to replace in fall combs affected with American foul brood with sealed combs of healthy honey, you say, Mr. Editor, p. 854, "You probably left an interval of 24 hours between giving the combs of honey. If you took away the diseased combs and gave combs of honey at the same operation we see no reason why the bees might not store some of the diseased honey in their sacs in the combs above. Anyhow, is it not safer to advise the beginner to be on the safe side?" No, I left no interval of 24 hours nor 24 minutes for the bees to use up the diseased honey in their sacs. What need? They would have all winter to use it up, for remember this is done after feeding of brood is all over. If a beginner should have American foul brood in a colony in the fall, when there was no longer feeding of brood, I should count it much safer to swap combs of clean honey for their diseased ones than to wait till brood was being fed the next season and then shake. Seems to me there's less chance for failure with the fall treatment either with a beginner or expert. [It may be safe for *you* to give sealed combs of honey, known to be all free from disease, immediately to a colony treated for American foul brood; but until the thing has been tested out more generally, we feel inclined to say, "Don't do it," especially to beginners. Let the veterans try it out in a small way first. At all events, we should like to have reports from those who have tried it.—ED.]

HERBERT C. HOOVER, the man who tells us how much we're allowed to eat, seems to be a friend to beekeepers. Here's an item from the Chicago *Daily Herald*: "Hoover uses honey in his tea. For those who can afford it, this offers a possible means of conserving the sugar supply." [The editor is doing the same in his family, and so also is all Rootville. It takes really less honey to sweeten coffee or tea than sugar — not because honey is relatively sweeter, but because it has more flavor. Moreover, honey dissolves instantly in coffee, whereas granulated sugar very often and generally does not all dissolve. Experience shows that in restaurants and in private homes coffee-cups (after the coffee has been drank) will have a residue of sugar equal to nearly half of what is put in. For years and years the American nation, and we may say the nations of the world as well, have been wasting sugar in this way. As honey dissolves instantly it will take only about half as much by weight to produce the same sweetening effect in the coffee that is drank, and there will be no residue in the bottom of the cup. Beekeepers should everywhere spread the slogan "Use honey." If honey ever once gets into coffee-cups—and now is our golden opportunity to get it so introduced—it will be a permanent coffee-sweetener after the war is over. This will put honey on a basis where there will be a constant demand that up till now we have not had.—ED.]

LESLIE BURR, what you say about smoking bees out of supers, p. 841, is exceedingly interesting, and I wish you had given fuller particulars. I've never succeeded to my satisfaction in smoking bees out of supers. I've piled them up with part of

the bees in them, blowing smoke from a smoker under them, and the bees didn't seem in any big hurry about coming out, and at that there was danger of hurting the honey with smoke. You take *all* the bees with the combs, pile five stories on an empty story in which is *some* smoldering burlap, and in a few moments all the bees are out. What's the secret of success? Do the bees stampede more rapidly when a big lot are present? Or is the secret in having a big lot of smoke ever so much more than can be given with a smoker? How much is your *some* burlap, and just how do you light and burn it? [We have never had any luck in getting *all* the bees out of a set of supers by smoking; and we have used enough smoke at times to make us the objects of criticism if not of arrest for cruelty to animals.—ED.]

DEMUTH'S wintering plan, p. 842, is interesting. You suggest, Mr. Editor, if combs of honey are very full, to have a clustering-space above. Wouldn't it be better to have it below? Don't bees, left to themselves, cluster below rather than above their combs? Possibly, however, you want space for candy above. [It may be a question whether the clustering-space should be above or below. Our idea of putting it above was, as you surmise, to provide for a cake of candy. If the bees make up a winter nest when Langstroth frames are still in a natural position, that winter nest is put out of place; hence we thought it advisable to lay on a cake of candy to provide for a possible deficiency of stores toward spring. A cake of candy put at the bottom next to the entrance would be out of reach of the bees on account of the cold entrance current.—ED.]

UNITING by newspaper method being my baby, I was greatly interested in your remarks, p. 829, Mr. Editor. You are right that it is necessary to punch a hole thru the paper, but not always. When it is warm enough, and the colonies strong enough, so that there is any danger of smothering, the bees are so lively about tearing the paper that a hole is hardly necessary. It seems rather more necessary in a cool time with weak colonies. Once I had a strong queenless colony which I newspapered with a weak queenright colony over it. I don't remember whether I made a hole or not, but the queen was killed. In such a case two sheets of paper are needed without any hole, rather than a single sheet with a hole.

W. J. BOUGHEN, you do well to disturb a colony in cellar by laying on top a comb of honey when it's really needed; but I believe you'd like it much better to give the comb below, which you can easily do with a two-inch space in your bottom-board. The disturbance is very much less, and you can feed a colony at the bottom of a pile as well as on top. [The disturbance in the cellar does far less harm than outdoors; but even outdoors, merely giving bees a comb of honey, if done quietly and quickly, on a moderate day, will do little or no harm, and might save the colony from starvation. In the case of an outdoor colony the combs would have to lie flatwise on top or be put down on the brood-nest. The latter, undoubtedly, would disturb the colony and should therefore be avoided.—ED.]

MY SYMPATHIES are with the queen-breeders who tell their mournful tales, p. 833. I tried rearing queens for the trade one season, and never again for me. If every beekeeper were obliged to try it for one year each, the breeders would have a happier time. [The queen-breeder certainly does have his troubles; but if he could control weather conditions, especially early in the season, he could depend on getting a certain output of queens or bees. But, as dearly bought experience has shown, particularly last spring, the queen-breeders of the world were clearly up against it.—ED.]

"APIARIES where practicable should be utilized for extracted-honey production, as, colony for colony, at least double the number of pounds of honey could thus be turned out," p. 555. I wonder, now, I wonder, if those Massachusetts fellows haven't set that a peg too high. Some say no more extracted than comb can be produced. Generally 50 per cent more has been claimed, and recently that has been advanced to 100 per cent. Is there in any of this anything more than loose guessing? What proof is there for any of the statements?

THE DEATH of O. O. Poppleton makes me feel lonesome. He was one of the veterans you couldn't know without liking. [He certainly was a lovable man. He had friends everywhere; but not only that, he was a prince among beekeepers. The beekeeping world has lost a most valuable man.—ED.]

J. L. BYER, you say, p. 872, "Honey prices are ruling high, higher, and *highest* ever—at least the highest for our time." If you had said "for *my* time" it would be all right; but some of us remember when honey was higher than now, the rule being that it kept even with the price of butter.

"SMOKE makes bees run; so when hunting for a queen don't smoke but spray with sweetened water."—*Schweiz. Bztg.*, 252.

OUR FOOD PAGE

Stancy Puerden

DO you need a new morning dress? Please don't think me rudely inquisitive. I merely wanted to suggest that you could not do better than buy one of the "Food Uniforms," sometimes called Hooveralls. The uniform is trim, serviceable, becoming, easy to launder and to put on, for it fastens with only one button. It makes an ideal morning dress, and is equally useful as a coverall apron to slip on over your best street gown to go to the kitchen and get a meal. The front is reversible, thus prolonging its usefulness before it needs the tub. On the sleeve is the insignia of the Food Administration as shown at the head of this page. I shall have to admit that the neat, detachable, white pique cuffs are nearly always detached from my uniform, for I am the kind of woman who gets into her work clear up to her elbows. The uniforms can be purchased ready made for $2.95. Wearing one helps a woman to bear in mind the saying current in England, "Nothing we can do can equal what the boys at the front endure."

Whether you wear the Food Uniform or not is a matter of personal preference and convenience; but I earnestly hope every GLEANINGS family has a Home Card hanging in a conspicuous position in the kitchen, and a card in the front window showing you are a member of the Food Administration. Is there a woman who can hesitate to sign the food pledge when she thinks of that bereaved mother in Evansville, Ind., the mother of our first American hero to die in the trenches in France? Then there are the mothers of the two other boys who gave their lives at the same time; there are the mothers, wives, or sweethearts of the seventy men who gave their lives on the transport Antilles; and perhaps even more deserving of our sympathy are the mothers of the twelve American boys who were taken prisoners by the Germans. We mothers whose sons, under the age of conscription, are still safe in school, should be willing to sacrifice to the limit to hasten the end of the war and stop this horrible sacrifice of the youth and hope of the world. And we have not yet been asked to make any real sacrifices. We are asked to "Eat plenty, wisely, without waste, and thus help win the war."

Let us now consider how we can carry out the request to make Tuesday a meatless and Wednesday a wheatless day. Some have said they preferred to make some other day a meatless day. That is your privilege; but I believe it is wiser to take the day requested by the Food Administration for two reasons: In the first place, if every one accepts Tuesday as a meatless day, as a matter of course, you will not have to make apologies to your guests; and as the hotels and restaurants are asked to observe the same day, no member of the family will be apt to spoil your meatless plans by eating meat at a public eating-place. In the second place, Friday has always been observed as a meatless day by a large part of the population, and you can usually get fresh fish at the markets. Therefore if you observe Friday as a fish day you can have two meatless days half a week apart. As one writer puts it, "United, we eat; divided, we starve."

When I began to plan these menus I had in mind a meatless day, a wheatless day, and sugarless day; but after writing the menus for the meatless and wheatless days I found they were both sugarless. To tell the truth, our town has been so nearly sugarless for some time back that I have become quite expert in planning sugarless meals for the Puerden family, and I doubt if the members of the family have even noticed the difference. The Food Administration says this is the time to draw upon our stores of preserves, jellies, and sweet canned fruit to help tide us over the next few weeks until the beet and cane sugar begins to move. It is also the time for us beekeepers in every way possibe to substitute honey for sugar.

Mr. Puerden suggests that we observe an eatless day a week. It might not hurt some of us growuups to have seven eat-less days a week. Now, Mr. Editor, I put that hyphen in myself. The proverbial fallen angel of the printing-office, the proof-reader, the editor, or some other meddlesome person persists in sprinkling my copy with hyphens. It sometimes takes me as much as fifteen minutes in a single month to remove superfluous hyphens from the proof. I am monthly expecting to see my maiden name tied to Puerden by a hyphen at the head of this department. Just to illustrate how much harm a misplaced punctuation mark may cause, some misguided person inserted an interrogation point in

my copy, where I innocently suggested that M. A. O. tell us something about his potato-digging. Would you believe it, that interrogation point came near shattering a life-long friendship?

MEATLESS DAY.

BREAKFAST	DINNER
Oranges	Baked beans*
Creamed codfish	Baked potatoes
Whole-wheat toast	Honey brown bread (Airline Honey Book)
Honey	Celery
Coffee (milk for children)	Dates Apples

SUPPER OR LUNCHEON

Cream of celery soup*
Toast squares
Potato muffins*
Honey bran drops (November issue)
Home-canned raspberries

WHEATLESS DAY

BREAKFAST	DINNER
Grapefruit	Shepherd's pie (mashed potato crust)
Corn flakes with top milk	Creamed onions
Buckwheat griddle cakes	Canned string bean salad
Honey	Rye bread
Coffee (milk for children)	Apple tapioca*

SUPPER OR LUNCHEON

Welch rarebit*
Baked potatoes
Hoe cake or cornmeal muffins
Honey
Canned peaches

CHRISTMAS DINNER

Roast chicken, turkey, or duck
Stuffing Cranberry jelly
Mashed potatoes Winter squash
Whole-wheat bread
Home-made pickle relish
Celery
Honey Suet Pudding*
Christmas sauce, or honey sauce*
Fruits, nuts, and raisins
Coffee

There are several points to which I wish to call your attention in the above menus. In the first place, tested recipes are given below for the dishes starred. The emphasis should be on the word "tested," for there has been much joking of late about war-time recipes.

Notice that potatoes are used in some form at least twice a day; and for those who prefer heartier breakfasts, potatoes could be added. The growers patriotically increased their potato crops, and thereby stood by the Flag. It is now up to us housekeepers to stand by the growers. Also an increase in the use of the perishable potato means a corresponding decrease in the use of the less perishable wheat. The shepherd's pie is made as an ordinary meat pie with a thick upper crust of mashed potato. Make it without an under crust.

To be consistent, the baked-bean recipe calls for no pork or bacon; but if you have a piece of bacon rind, wash the skin side and use it in the baked beans for flavor.

Let me especially recommend the recipe for honey suet pudding. Many people have asked me for that recipe, for it is an unusually tender, delicious pudding, with a much more delicate flavor than when made with molasses. The Christmas sauce is beautiful in color. Last Christmas, at a large family dinner some of the men chose mince pie rather than pudding; but when they saw the tempting-looking pink sauce they insisted on spreading it liberally over their portions of pie.

Speaking of pie, my pumpkin-pie recipe,

Continued on advertising page.

PLEDGE CARD FOR UNITED STATES FOOD ADMINISTRATION

If you have already signed, pass this on to a friend.

TO THE FOOD ADMINISTRATOR:

I am glad to join you in the service of food conservation for our nation and I hereby accept membership in the United States Food Administration, pledging myself to carry out the directions and advice of the Food Administrator in my home, insofar as my circumstances permit.

Name .....

Street .....

City ..... State .....

There are no fees or dues to be paid. The Food Administration wishes to have as members all of those actually handling food in the home.

Anyone may have the Home Card of Instruction, but only those signing pledges are entitled to Membership Window Card, which will be delivered upon receipt of the signed pledge.

In order to reach any who may not have had an opportunity to sign the food pledge we are printing it herewith. Sign it and thereby enroll yourself among the millions of women who are helping to win the war by feeding their families plentifully, yet without waste.

Cut out the pledge and mail it to The United States Food Administration, Washington, D. C.

SIFTINGS

J. E. Crane

I HAVE been inclined to look with envy at the queen-breeders, whom I have thought were independent of the seasons, their business continuing whether the flowers flowed with nectar or otherwise, while we poor honey-producers were wholly dependent on the flowers; but, alas! it would seem from the recital of their woes in the November number of GLEANINGS that they too must depend upon the weather.

* * *

A. W. Finley goes for me on page 849 because I remarked somewhat flippantly that shallow extracting-frames were a first-class nuisance. I am free to admit that they have some advantages. A deep eight-frame super is but little heavier when filled with honey than a ten-frame shallow super. This year we have had to feed quite heavily for winter, and are not able to buy enough sugar to complete the feeding. How nice to be able to take from our supers two or three full-depth frames solid with honey and drop them into a hive that happens to lack stores! If they were all shallow frames we should certainly be in trouble. Again, extracting-combs with us are apt to become clogged with pollen after a few years' use. How convenient to drop them into the brood-chamber and use them for brood-combs when we find them this way! As our surplus honey is usually all white honey, we have little need for sorting it.

* * *

GLEANINGS for November announces the death of my friend O. O. Poppleton. I received a letter from him not long ago, and he was planning to go into a soldiers' home in southern California for the coming winter, having no thought that he was so near the end of his earthly life.

He was a rather unusual man in many ways. His business with its successes, failures, and disappointments, and also his constant ill health during his later years, had not made him hard or sour, but always cheerful and hopeful, ever ready to do another a favor. He was a good man, thru and thru, and we can hardly regret that he has entered into a fuller, richer, freer life than he knew here.

* * *

It is doubtless true, as Mr. P. C. Chadwick asserts, page 780, that a shell fired from a gun will not travel as far in an atmosphere heavily charged with moisture as in air with very little moisture; but it does not necessarily follow that a bird or bee can fly more freely in air with little moisture. A shell is propelled by an explosion in the gun, while birds or bees are propelled by their wings. Heavier air gives their wings a greater force than lighter air.

* * *

There is no reason why bees should not winter well by Demuth's method of packing (see page 843). I should not hesitate to put a hundred hives into such shape if I had the supers at liberty for this purpose. Indeed, the shape of such a hive 9 x 10 x 18 in. high on end would be ideal; and, given a little upward ventilation, a good colony with sufficient stores would winter very well in northern Vermont without any packing at all, but would fare better with some, no doubt.

* * *

That is a capital idea that F. Greiner offers on page 862 when he affirms that bee conventions are not for the purpose of instructing beginners, but for action. There are many practical questions of large financial importance that can better be settled in conventions than elsewhere, while the best method of introducing queens may safely be left to the directions sent out by the breeders of queens.

* * *

By the way, while at the Agricultural College at Amherst, Mass., recently, J. G. Byard showed me the combs of a colony of bees that had wintered on the branch of a tree in the cold bleak climate of eastern New England without any protection whatever. The colony, as I understood, came thru in fair condition.

* * *

Some of our beekeepers who have to feed for winter, and who have failed to lay in a store of sugar during the summer when it was to be had, are now in trouble, for it can be bought only in very small amounts. As a result, there will doubtless be some loss of bees from starvation during the coming winter.

* * *

I quite agree with Mr. Chadwick that a large hive will give us a larger working force than a small one. A few extra combs in a hive seem to act like a balance-wheel on an engine—absorbing power when there is a surplus, and giving off power when there is any lack—a very good thing.

Our Neighbors' Fields

E. G. Baldwin

"I BELIEVE the use of cartons to cover sections of honey should be encouraged, as it not only keeps the comb from dust and dirt, but from flies and other sources of disease, and, in addition, gives us a chance to employ cheap advertising on each carton. * * * I believe in the use of a nice tasty carton that will compare well with other packages with which it is placed. * * * I believe it will pay."—J. E. Crane in *Domestic Beekeeper,* p. 360.

FINDING A LOCATION IN THE SOUTH.

"The northern beekeeper who dreams of finding an ideal location in the South should spend some time there before tearing up stakes and moving his family. In general, southern locations are not equal to those in the North, and social conditions are so different that one should become somewhat familiar with the South before making a change. * * * The best plan for one contemplating such a change is to spend his winters in the South, becoming familiar with the conditions and customs, until he feels sure that he is prepared to adjust himself to them. The northern man who goes south expecting to show those who have lived there for years a better way of doing things is not likely to succeed very far."—*American Bee Journal,* p. 332. [Advice more safe and sane has not been given. —E. G. B.]

WINTER CARE OF BEES.

Dr. E. F. Phillips, the federal head of apiculture in the United States, writing in a recent and timely bulletin, emphasizes one fact that is of universal importance; viz., the imperative need of *wind protection.* He says that wind protection is necessary, and, unless it is provided, heavy packing is of little value. We believe this advice is as valuable for beemen in the South, even in Florida, as it is further north, especially so in November, December, January, and February. The two latter months need it for the sake of the early breeding, the two former for the sake of the life of the bees and the conservation of honey.

GOOD IDEAS IN AMERICAN BEE JOURNAL, P. 336.

1. Use of ten-gallon milk-cans for transporting honey from outyards to the home apiary and extracting-room. They are easily handled, are strong, tight, and yet the honey is easily poured out to the last drop.

2. Doctoring the bee-escapes. If of board, the Porter escape is in the center and strips are nailed to the board, meeting in the center and dividing the board into four equal sections that center at the escape. If the wire escape is used, the escapes are at opposite diagonal corners, and a strip of wood runs from one to the other across the board, making two triangular sections of the board. These both look like good ideas.

3. Enameled wire cloth is rolled into a cylinder about the diameter of a stovepipe and the lower end is closed by like material. This is set into the honey-tank, resting on the bottom, and coming high enough so the top will be level with the top of the tank. The honey poured or pumped into this cylinder is thus strained by settling and is then run off at the bottom of the tank, leaving the sediment in the cylinder. Later it is heated and run thru a cloth. Having been once strained, the honey has but little to clog the cloth strainer. The plan seems inexpensive, effective, and well worth a trial.

SAVE THE WAX.

"Mr. Crane's writings are always entirely practical, and seasoned by a wide experience. He seems, however, to have overlooked a source of revenue when he recommends burning the scrapings from propolized sections. Altho this material looks worthless, when melted with plenty of water and stirred thoroly many will be surprised to find the propolis sink to the bottom of the vessel, and often 30 per cent or more of wax come to the surface of the water."—E. G. Carr in *Domestic Beekeeper,* p. 402.

FROTHING HONEYS.

Why does honey froth or bubble when no ferment is present? asks W. D. Null, *American Bee Journal,* p. 191. He alludes to honeys in Alabama that are so full of air or some element of a frothing nature as to blow out the cappings of the cells at times. He declares that Washington experts say no ferment is present. He begs for more light on the question. [In Florida it is well known that the honey from the cabbage palmetto will froth heavily, and bubble in the cells on uncapping. These bubbles seem to be more air than anything else, for they disappear after extracting. There is no blowing or explosion of covers, etc., such as Mr. Null describes. Surely more careful investigation along this line is demanded.—E. G. B.]

BEGINNERS' LESSONS

H. H. Root

IF the feeding and preparing for winter has been properly attended to, as outlined in Lessons 9 and 10, there is but little work left to be done among the bees until the first warm days in the spring. The outside entrances should be reduced so that if mice are troublesome they can not find their way into the hive. An entrance ¼ inch high will not admit mice. The length of the opening should depend on the size of the colony, 2 to 3 inches for colonies not overly strong, and 6 to 8 inches for very strong ones. If winter cases are to be used, there should be no alighting-board or other obstruction which would catch the ice and fill up the entrance, thus shutting off the air. It does no harm if the whole hive is covered with snow, altho thawing weather followed by extreme cold is dangerous, as the entrances may be entirely covered with ice. At such times it pays to make an examination and clear the ice away if the hive is packed in solid. Loose snow never does any harm.

This year many beekeepers who were prevented from supplying necessary stores by reason of bad weather in October, have found themselves confronted with the sugar famine. If the amount of sugar required is not too large, the grocers will usually sell what is needed to prevent starvation of the bees, if the situation is explained to them. Remember that dirty sugar can be used, even sugar that has been tainted with coal oil. It is not absolutely necessary to have the white granulated sugar. The best grade of brown sugar, that which is creamy in color, is all right to use for winter stores. In cold weather any sugar must be fed in the form of hard candy laid over the top-bars, since bees can not take syrup in real cold weather. The candy is made as follows:

HARD CANDY FOR WINTER AND SPRING FEEDING; HOW TO MAKE IT.

Into a dish of hot water on the stove, slowly pour an equal amount of sugar, stirring constantly. Make sure that the sugar is all dissolved before boiling commences. If this precaution is not observed, some of the undissolved sugar is likely to burn, injuring the flavor of the candy and almost surely causing trouble for the bees later. If one has a candy thermometer, watch the temperature, and do not let it go above 275 to 280 degrees. Test frequently by dropping a very little of the syrup into cold water (about 50 to 55 degrees F.). When the boiling has continued long enough the drop of candy, when cooled in the water, should be hard and brittle when taken out; but when placed in the mouth it should soften slightly, so that it is tough. When this time has arrived, pour the syrup immediately on to paraffined or waxed paper on a table. Have the table perfectly level and around the outside of the paper put wooden sticks ¼ inch high to confine the syrup and prevent it from running off. When the candy is nearly hard, crease it or cut it with a heavy knife so that it may be broken up into right-sized squares when hard.

The color of the candy when cold should be about that of light basswood honey. If it is darkened very much it is scorched and unfit for the bees. To prevent scorching, reduce the fire toward the last so that the syrup will boil but slowly.

Among the beginners there are members of practically all professions, and there are also printers, storekeepers, poultrymen, and farmers, who keep a few bees. All these can profitably employ their time during the winter months. One who keeps bees as a business usually has plenty to do, for, aside from the reading, studying, and planning for the next season's work, there is wax to be rendered from cappings, if they have been held over from the busy season, or from an accumulation of scraps or old combs; there is the assembling of supplies needed for the next honey-flow, the nailing, painting, etc.

Beginners and professional beekeepers alike, in view of the shortage of sugar and the very great need of a wholesome sweet to be used as a substitute, should leave no stone unturned in the preparation for the honey-flow next season. In the clover districts especially, indications, so far as they can be read in advance, were never better for a good honey-flow next year. The rainfall has been above normal, and from every side come reports of an abundance of clover. Beginners, sideliners, and those who keep bees for a livelihood, should begin active preparation at once, for it is a patriotic duty to conserve the bees which furnish the purest and most wholesome sweet the world has ever known. Beginners especially should read the best textbooks during these months when the bees themselves require little attention. The following list is recommended, any and all of which can be obtained from the publishers of GLEANINGS, and at a reduced price in combination with a subscription to this journal: "A B C and X Y Z of Bee Culture," by A. I. and E. R. Root; price $2.50; or with GLEANINGS one year, $3.00; "How to Keep Bees," by Anna Botsford Comstock; price $1.00, or with GLEANINGS one year, $1.50; "Fifty Years Among the Bees, by Dr. C. C. Miller; price $1.00; or with GLEANINGS one year, $1.50; "Langstroth on the Hive and Honeybee," price $1.00, or with GLEANINGS one year, $1.50; "Beekeeping," by Dr. E. F. Phillips; price $2.00, or with GLEANINGS one year, $2.50.

GLEANED BY ASKING

E. R. Root

G. M., Ontario. —In shipping pound packages of bees to Canada the bees mostly arrive in a starving condition, having in several cases built comb in the packages owing to the bees eating the candy in a circle, thereby presenting a large surface area for the bees to feed on. If a piece of tin the depth of the pie-plate used were pressed into the candy in a spiral form, starting from the center, and gradually spiraling to the edge, a hole bored in the center of the end of the package, instead of a slot, as used, this would always allow the same surface to be worked on by the bees and thus regulate the consumption of the stores.

A. While it is true that bees in pound packages are sometimes short of stores, this shortage would not be corrected by the plan proposed—in fact, it would be made worse in that the bees would get caught in the narrow passageway, and three or four of them would be stuck in the candy so that the rest of the bees would starve to death when a plentiful supply was furnished in the cage. A long experience has shown that it is very important to have the opening to the candy large enough so that a few bees will not plug up the opening. We therefore make the opening in the form of a slot wide enough so that if one or two bees are stuck in the candy there will still be opportunity for other bees to get at the food.

F. E. W., B. C.—1. Is comb for chunk honey usually produced from foundation or starters? 2. If from full foundation, what weight is used, and what depth of frame? 3. Is ordinary section foundation manufactured in full Langstroth depth? 4. If so, can this be used without wire or other support?

A. 1. We are not sure, but we believe it is the general practice to use starters only. 2. If full sheets are used, the ordinary light brood would be necessary. Super and extra-thin-super foundation would stretch too much, and possibly break down. You might be able to use the ordinary thin-super foundation width, which would reach down to about half the depth of the frame. 3. No. 4. If the thin super for sections were made full width it would have to have horizontal wires to support it; and these wires would be objectionable in that they would interfere with cutting out the combs when they were filled.

W. G. M., Idaho.—In case a man in the North orders, say, 15 lb. of bees from the South, and they arrive in bad condition (over two-thirds dead from starvation) and the northern man takes them out of the depot in order to save the few remaining live ones, who should stand the express on the dead bees —the breeder or purchaser?

A. The consignee of an ordinary commodity may refuse to accept a shipment that reaches him in bad order. In this case, legally he probably would not be required to pay express charges. Cases similar to this have come up in regard to the shipment of fruit; but common fairness would suggest that the consignee accept shipment in case of live bees, provided a part of them were alive, and by the same token the shipment should be replaced.

It is the rule, however, that the consignee is expected to pay express charges on the second shipment as well as on the first. But if a shipper wants a pleased customer he would, perhaps, do well to pay the express charges on the second shipment. But sometimes the express company is negligent or careless, in which case the consignee should collect from the carrier if he can.

You have proposed a rather nice question on exact legality and equity. It is hard to lay down a general rule in view of the fact that there are three parties in the transaction—shipper, carrier, and consignee. The second party is very often the one to blame, and not the first. Sometimes the carrier routes the package over its own lines in a long roundabout way, when if it had been shipped direct with a short haul the bees would have gone thru in good order.

Practically all cases of this kind must receive individual treatment; and in most cases the shipper should stand between his customer and loss as a matter of good business sense in order that he may build up a permanent trade in the future.

F. C. J., Arizona.—I bought some two-story hives which had had but half sheet starters. The lower half in the second story had been drawn out to drone-cells. Will it be all right to raise these to a third story and put in their place frames of full-sheet starters? I have 100 other hives that wintered with the second story half full of honey. After brood starts would it be all right to raise it up and put a story of empty starters between?

A. It would be perfectly proper to raise the story that contains the drone comb and put under it supers containing full sheets of foundation. Full sheets are much more satisfactory, and always better for beginners. While the bees will build worker comb from mere starters, the conditions have to be favorable. If you hive the swarm on starters it may or may not build all worker comb. The main thing is to have a moderate honey-flow, no faster than bees can take care of when they will build worker combs for the queen. If the flow is very rapid they will build drone comb and neglect the queen.

In answer to your second question we would not advise you to put a super containing mere starters over the brood. It may work out all right, and it may not; a good deal will depend on conditions. If you scatter a few of these frames containing starters in between frames of brood the bees will draw them down and fill them out with worker comb. You can spread the brood in this way providing it is warm enough, and in your part of the country we presume there will be no trouble on that score.

HEADS OF GRAIN FROM DIFFERENT FIELDS

Another Plan of Eliminating Laying Workers

From the colony of laying workers I remove three combs, place a frame of foundation or drawn comb next to the remaining combs, and then introduce a two-frame nucleus with a laying queen in the side left vacant.

Mathis, Texas. H. D. Murry.

New Scheme for Colony Records

The illustrations show two sample sheets which I have prepared for keeping a simple and accurate account of an apiary. I know of no such book on the market, but would be glad to see one published. For the beginner it would be ideal because he could profit much by past experience as he referred to his account from time to time. It would be no less valuable to the experienced beekeeper who would use it for studying the success of past treatments of diseases, the progress of weak colonies, or for choosing a hive from which to breed queens. It seems to me such a book as this would enable beekeepers to run their apiaries on a more scientific basis.

New Haven, Conn. Clarence B. Mackay.

The Distance Bees Will Go for Nectar

Being interested in the distance bees fly for nectar, I have made many tests on this particular question. When I started beekeeping I lived in Yorkshire, England, in a village called Tale, near the banks of the river Aire. It happened that exactly three miles as the crow flies was a place where much heather abounded. This place was called Baildon, and was on the edge of Rumbles Moor. Now, there was no heather any nearer than that, and yet the first year I kept bees my one colony stored 60 one-pound sections of heather honey. This not only proves that bees fly three miles, but also that they fly by scent, and often against the wind, as most frequently the winds came from that direction.

I also tried the experiment of dredging my bees with flour. The entrances were just plastered with flour, so that as they came and went they became completely covered with it. On investigation I soon found that my bees were working on bramble bushes at least two miles and a half away from home. All this has thoroly convinced me that, when it is necessary, bees will fly a considerable distance for nectar.

Barrie, Ont., Can. Edgar Thomas.

HIVE No.

DATE	SUPERS PUT ON	SUPERS TAKEN OFF	SWARM	YIELD LBS.	CONDITION OF BROOD	DATE	DISEASE TREATMENT	REQUEEN [METHOD]	RECORD OF QUEEN	RECORD OF DRONE	DATE	FEEDING		REMARKS

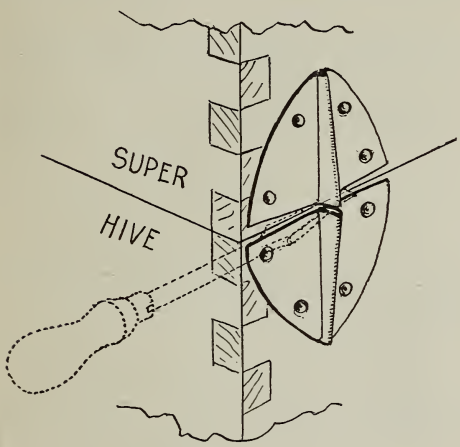
HIVES ..... APIARY

COMB	LBS.	DATE	EXPENCES	SALES	PROFITS	INCREASE	REMARKS	WINTERING
FANCY								
GRADE #1								
GRADE #2								
CULL								
EXTRACTED								
AVERAGE YIELD								
TOTAL YIELD								
WAX								

HEADS OF GRAIN FROM DIFFERENT FIELDS

Easier Plan of Prying Hives Apart

The following diagram shows a device of my invention for aiding beekeepers in prying off supers more easily than the ordinary way.



The two pieces are made of strong metal which will readily stand all possible strain to which they may be subjected. They are attached near the corner of the hive, and a screwdriver or other tool inserted as shown in the figure. A slight downward pressure loosens the super immediately.

Hector, Minn. Elmer Anderson.

Forest Leaves in Bags for Winter Packing Material

I don't see why, in all that is said about materials for packing, we do not hear more of forest leaves (or any other material) in burlap bags. The bags of leaves can be put into any place in the fall, taken off at whatever time there is occasion for inspection, and removed when desired the next spring, all without scattering any of the leaves into a place where they don't belong. A bag loosely filled will pack into any place where an equal quantity of loose leaves would go; or if a few bags are filled tightly, and put on all sides of a hive, having the crevices between the rounded bags filled with loose leaves, the thinnest-walled cracker-box may be made into so warm a skep that the bees will not know whether it is warm or cold.

Ballard Vale, Mass. Steven T. Byington.

How to Get Rid of Pollen-clogged Combs

A friend of mine who is an experienced beekeeper recently showed me some perfectly good brood-combs that he had discarded simply because they were filled with pollen. In this valley it is not uncommon to see combs thus clogged. It occurred to me that some readers of Gleanings might like to try my way. Place the clogged combs above an excluder with the queen and plenty of brood, and the pollen will rapidly disappear. The explanation seems to be that the workers have difficulty in carrying pollen thru the excluder, hence a shortage of pollen in the super.

Campbell, Cal. C. F. Alexander.

A Big Gain for Only Seven Days

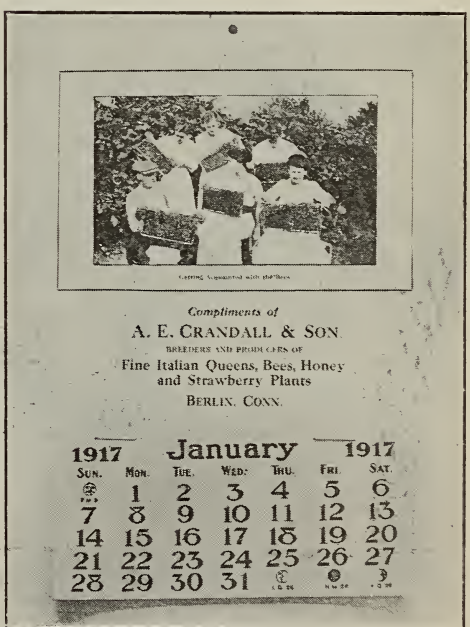
During the past season we experienced an unusual gain in the scale hive for the period of July 9-15. During these seven days the scale hive showed a total gain of 81 pounds, or an average for the seven days of 11 4/7 pounds. This was only from clover—white and alsike. We may have established a record for clover.

July	9, 10	pounds.
"	10, 12	"
"	11, 11	"
"	12, 11½	"
"	13, 13	"
"	14, 12	"
"	15, 11½	"

Rain then checked the gain, altho as good gains were made several times afterward, but not for seven consecutive days. The total gains of this hive were 312 pounds, the highest being from basswood, 14 pounds in one day. The basswood flow was cut very short by a rainstorm.

Minnesota Honey Farm.

Foreston, Minn.



How one beekeeper advertises.

HEADS OF GRAIN FROM DIFFERENT FIELDS

Don't Put Out the Fire With Water When the Wax Boils Over

A few days ago I was melting a pan of beeswax on the kitchen stove. Altho I watched it carefully to prevent it from getting too hot, it suddenly boiled, running over the top and down the sides of the stove. In an instant the stove was in a mass of flames which rose clear to the ceiling. The heat was so great no one could approach. Realizing the great danger of the flames spreading, I seized a small boxful of salt which was near by. The first handful greatly checked the blaze and it took only four or five handfuls to put the fire completely out. M. L. Dodson.

Jennings, Kans.

[There have been a good many fires caused by wax boiling over on a hot stove, so we publish the above as a warning. Water, unless there is a very great amount of it, only makes a bad matter worse.—Ed.]

CRISMUS IN DIXIE

Dar's 'possum in de uvvum an' 'taters by his side,
An' Mandy's in de kitchen—her mouf is open wide;
She's pattin' out de ash-cake, an' singin' ez she go,
'Praise Gord fum whom all blessin's des natchully do flow!

I's settin' by de fierplace, big back-log blazin' bright;
Lawd, I's a happy nigger dis berry Crismus night.
Dat 'possum in his graby, so rich an' nice an' brown,
Dar aint no king in Yurrup kin beat it I'll be boun'.

Our appetites am moojus, looks lak dey'll nuvver fail—
We eats him fum his toofies to de tip end uv his tail.

We eats to full repletion, an den we *has* ter stop.
Uv 'possum, pone, an' 'taters dar aint lef' narry drop.

De snow is on de bee-gums, dar's honey in de comb;
Bees' jes lak me in winter, dey laks ter stay at home.
So let de win' howl outside, we's happy ez kin be
Widin dis humble cabin, my Mandy Gal an' me.

Nashville, Tenn. E. J. ADKISSON.

THE BACKLOT BUZZER.

BY J. H. DONAHEY.

It may be true all right that some people are eating omelettes to save eggs; but say, Ma, do ye notice that honey is a good deal sweeter now that sugar is so scarce?

JUST NEWS

Editors

A convention full of snap and interest "right from the word go" was that of the Western New York Honey Producers' Association at Buffalo, November 13 and 14. The attendance was good—over a hundred at some of the sessions—and the beekeepers present, many of whom numbered their colonies by the hundreds, were there for business. W. L. Coggshall, the 2000-colony man, was there, as were S. D. House, Charles Stewart, and other prominent men of the State. There were present also some representative beekeepers of Ontario—J. L. Byer, E. T. Bainard, Wm. Couse, and J. Lincoln. Altho the crowd was large and there were many good-natured debates, Pres. Demuth kept the sessions exactly on schedule time, no changes having to be made in the carefully prepared program that had been advertised. The President in opening the meeting said that no more important work had been done by the Association during the past year than the recommendation of a minimum price by the market-report committee. All the honey in the locality had been sold. J. L. Byer, the first speaker, in his remarks on beekeeping as a business, alluded to beekeeping as "the only honest way to steal a living," but he added that it is no get-rich-quick scheme.

S. D. House, one of the best-known comb-honey specialists in the world, said that the day has gone by when the specialist comb-honey producer can produce comb honey only. To produce a fancy article he must produce both comb and extracted, letting the flow begin and taper off on extracting combs, the bees working in the sections only during the height of the flow. By the way, Mr. House does not fancy the word "fancy." He does not like to produce honey with the outer row of cells next to the section sealed all around—too much drip when the comb is cut out on the plate; and if the honey is left on the hives long enough to be sealed next to the wood, the surface of the cappings is much more likely to be travel-stained. There was considerable discussion in regard to the sizes of sections. Mr. House himself made an appeal for a standard, and said that if the standard adopted were not like the sections he used, he would willingly change his equipment over. The trend of the discussion seemed to be in favor of a 4 x 5 plain section, altho several dissented strongly.

A carton submitted by the New York State Association, showing a full-sized view of a section of honey in halftone on each side, was adopted by the Western Association, this carton to be used by members of New York association only.

Wm. Couse, of Ontario, while not on the program, was asked to tell something of the disappearing disease. He said that while no one seems to know what the disease shall be called, nor what causes it, nevertheless it is a serious trouble. At least three beekeepers have had heavy losses, one extensive beekeeper near Niagara Falls having his apiary reduced from over 200 to but little more than 20 colonies. Inspector Charles Stewart also spoke on this subject, and all agreed that it is a disease that will need to be watched very closely, whether it be Isle of Wight, paralysis, or something that goes and comes of its own free will. Dampness and pollen were named among possible contributing causes. The general verdict was that darker Italians were less affected than goldens.

J. H. Sprout, of Lockport, was elected president for the ensuing year, with Wm. F. Vollmer again chosen secretary and treasurer.

ILLINOIS STATE BEEKEEPERS' CONVENTION.

The Illinois State Beekeepers' convention was held in the sun parlor of the Leland Hotel, Springfield, November 14 and 15. This organization has back of it some of the best beemen in the country, such as C. P. Dadant, editor of the *American Bee Journal;* his brother-in-law, Emil J. Baxter, of Nauvoo; A. L. Kildow, foul-brood inspector; Dr. A. S. Baxter, of Springfield; James A. Stone, secretary, of the same city, and a dozen others almost equally prominent. This organization is the only one in this country (except New York) that has state aid in the sum of $1000 which it uses in furthering the industry in the state and is in addition to the inspection fund. That beekeeping in Illinois is now in such a flourishing condition can doubtless be ascribed to the State association and the work of the few men whose names have been mentioned.

Inspector Kildow reported that, notwithstanding more apiaries were examined than ever before last year, less disease was found than during the year before, proving that foul brood is not only being held in check,

but that its ravages are being considerably mitigated.

There was a discussion on the subject of honey as a food, on the afternoon of the first day, led by E. R. Root. In the evening Mr. Frank Pellett, of Atlantic, Ia., delivered a very instructive illustrated address on "Beekeeping North and South." Mr. Pellett is the author of a number of books, and a writer of articles for magazines and papers and also a lecturer.

On the following day there were some spirited discussions on outdoor wintering. J. W. Bowen claimed that bees can be wintered in regular summer hives without the need and expense of packing in his locality. He not only claims it but does it year in and year out. This called forth a lot of discussion which was finally wound up by the majority favoring packing of some sort.

In the afternoon Mr. Dadant presented some rather conclusive arguments in favor of 1½-inch spacing as against 1⅜. His main reasons for adopting this size were the reduction in swarming, a larger winter-clustering space, a larger amount of stores in the brood-nest, and a greater mobility of combs.

It was naturally expected that a representative of one of the bee-supply factories, in the person of E. R. Root, would combat Mr. Dadant's claims. Mr. Root surprised the audience by saying he was afraid Mr. Dadant was right, but urged that the 1⅜-spaced Hoffman frames would be spaced, after they were covered with bee-glue, nearly 1½ inch from center to center.

Dr. A. C. Baxter, the newly elected president, is a live wire if there ever was one. He is a man who knows how to go after a legislature and get what he asks for. He not only knows how, but gets it. The National Beekeepers' Association will do well to employ him as a lobbyist down at Washington, D. C. He has a personal mannerism that seems to carry everything before it irresistibly. He would make an excellent president for the next National. The beekeepers of the country may rest assured that he would make things come to pass. This is no reflection on the former officers.

Dr. Baxter was elected president and Jas. A. Stone was elected secretary.

* * *

Mr. L. E. Mercer, one of the most extensive beekeepers of Southern California, died at the Bard Hospital in his home town, Ventura, Cal., on Oct. 21, of acute pneumonia. The deceased was born in Zanesville, Ohio, June 14, 1846, but later lived in Illinois and Iowa, and in 1883 removed to Ventura. He was a beekeeper before making his home in southern California, and at the time of his death his four apiaries in northern Los Angeles County contained more than 1000 colonies. He had practiced the moving of bees quite extensively. Of late years he had made it a practice to move his bees down to the orange-groves of Los Angeles County for an early crop and back to the mountains at Castair for the sage, using a large motor truck in moving. He will be greatly missed in California bee conventions, not so much for his formal speech-making as for his genial friendliness and numerous little wrinkles and ideas passed around in talk fashion between sessions. He was an ingenious inventor; and a number of ideas, later patented by other people, were first put into use by Mr. Mercer in his apiary. One notable example of this is a popular and effective wax-press. He is deeply mourned by all who knew him as a kindly, just, and honest man.

* * *

West Virginia is coming to the front as a bee territory. It is reported that bee disease is under entire control as the result of work done by Chief Inspector C. A. Reese, of Charleston, and his assistants. Kennith Hawkins, of the U. S. Department of Agriculture, has spent a month in that state making a survey of beekeeping conditions in ten counties and has secured the pledge of about fifty beekeepers to act as demonstrators in winter-packing methods in co-operation with the county farm agents, and these beekeepers are expected to continue to act as demonstrators of better methods in beekeeping next summer. Vast stretches of tulip, poplar, basswood, sourwood, and gum exist in the state, mostly in quite inaccessible mountain regions, where over 90 per cent of the bees are in box hives. Reports of 100 pounds per colony from log gums have come in from reliable sources, indicating what can be done in bee culture in West Virginia.

* * *

The annual meeting of the Northern Illinois and Southern Wisconsin Beekeepers' Association was held in Freeport, Ill., on Oct. 16. A fair number of members attended who reported a poor honey crop thruout the association's territory, and that there are light stores for winter. The officers elected were: President, N. A. Kluck, of Lena, Ill.; Vice-president, S. M. Mulnix, of Lena, Ill.; Secretary and Treasurer, B. Kennedy, of Rockford, Ill.

* * *

The Northern Wisconsin Beekeepers' Association will hold its annual meeting on Saturday, Dec. 29, at the courthouse at An-

tigo, Wis. The beekeepers of that section of the country appear to be very much alive. In their booth at the county fair they had 3500 pounds of honey on display, a four-frame reversible extractor, all kinds of supplies for handling bees, a large swarm of bees in a glass hive, and all kinds of cakes, pies, cookies, and doughnuts made from honey recipes. E. H. Marsh, of Antigo, is secretary-treasurer of the association.

* * *

The Nashville, Tenn., *Banner* of Oct. 14 contained a very handsome tribute to the worth of Mrs. Grace Allen as a sideline beekeeper. Beneath her published picture the *Banner* printed this: "Gifted young Nashville woman who has achieved widespread recognition for her literary work. Mrs. Allen is quite an authority on beekeeping, and some of her best verses are inspired by her bees." The article in large part was an interview with Mrs. Allen on her work with bees.

* * *

The Northeastern Kansas Beekeepers' Association will hold their annual meeting at Topeka on Dec. 7 and 8, the same date as the state meeting of the Nebraska Horticultural Society and at the same place. Mr. A. R. Hockensmith, Sta. B, Topeka, Kan., is president of this association.

* * *

A postal card received by the Editor of GLEANINGS from Francis Jager, President of the National Beekeepers' Association, dated at Rome, Italy, recently, bore the following message: "Best regards on our return from the Balkans. May be home early in December."

* * *

Mr. Ben G. Davis, or, more exactly, Benjamin Gant Davis, the well-known queen-breeder of Spring Hill, Tenn., was married Nov. 6 to Miss Gartha Blakemore. Ben Davis is a husky good-looking beeman, a likable fellow, a good queen-breeder, and we have no doubt that his partner for life will be equal to if not better than the other half. Congratulations, Ben.

* * *

Mr. Silas W. Bercaw died at his home in Glendale, Cal., on Oct. 21, in his 80th year. He has been a resident of California for thirty years, and formerly was a resident of Seneca County, Ohio. He was an old-time beekeeper, and interested in the craft till the last.

* * *

The agricultural press of the country is paying more and more attention to bees and honey. A glance thru the columns of the leading weekly and monthly journals that appeal to the farmer prove this statement. It is not to be doubted that very shortly the farm press generally will provide permanent departments devoted to the interests of the beekeeper.

* * *

Commerce Report, issued by the United States Department of Commerce, date of Oct. 3, lists "beehive material" as one of the articles not requiring export license at present. Of course, no beehive material nor any other material can be shipped to any territory occupied by the military forces of Germany or her allies.

* * *

The Mercer County, West Virginia, Beekeepers' Association was organized at Matoaka, W. Va., on Sept. 8. Rev. H. I. Cook was elected president; T. B. Godfrey, vice-president; and P. L. Vest, secretary-treasurer. The meeting was an enthusiastic one, making the prospects good for a very successful association.

* * *

The 14th annual meeting of the Kansas State Beekeepers' Association will meet at the Chamber of Commerce, Topeka, Jan. 7-8, 1918. A splendid program is being prepared and all persons interested in bee culture are urged to attend. A honey banquet will be served at noon, Jan. 8. O. A. Keene, of Topeka, is secretary.

* * *

Mr. Mellville Hayes of Wilmington, O., president of the Ohio State Beekeepers' Association, passed away at his home on the morning of Nov. 21. His death has brought to a close a useful and good life, and removed an enthusiastic member from the ranks of Ohio beekeepers.

* * *

A New Jersey beekeeper writes that, while bees did nothing in his locality in the way of storing a surplus, yet they have there the heaviest crop of apples ever known, and the writer attributes this to the good work of the bees.

OUR HOMES

A. I. ROOT

The lightnings lightened the world.—PSALM 77:18.

Who hath gathered the wind in his fists?—PROV. 30:4.

And God said, Let us make man in our image, after our likeness; and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.—GEN. 1:26.

MY friends, I have a long story to tell you. Now do not be in a hurry to say it is something I have told you already, and please do not be in a hurry to say that what I am telling is away behind the times. It may be so on the start; but be patient and follow me, and I think you will agree that it finally comes clear up to the present; and, most important of all, it looks out *ahead* of the present, and suggests that, instead of worrying about the high price of gasoline, coal, etc., the great loving Father has a great unexplored mine of fuel just over our heads only awaiting the time when poor infirm humanity shall waken up, rouse up, and *climb a little higher* than it has ever done before.

Almost if not quite 70 years ago I ran on to something about electricity in an old doctor book. I think I was not over ten years old at that time; but I did the best I could to construct what was then called a "galvanic battery." After much fussing, and perhaps some crying over it, my good mother suggested that I consult our family physician; but the poor fellow did not know much more about electricity than I did. Some time after, a traveling lecturer came along. *He* told me how to make a battery. I saved up my pennies, went to the tin-shop, and asked the price of sheet copper. I had the tinner cut out a piece and roll it up so as to make a copper cup. I was going to have a tin bottom put in because it was cheaper; but he said I had better have *bottom* and *all* made of copper; and I am very glad he gave me that advice, or I should have had another failure. This copper cup held perhaps three pints. Well, inside of it we put a bottomless cup of sheet zinc. Three wires were soldered to the top of this zinc cylinder, and bent over so the three wires would support it inside of the copper cup. After I had slipped a cork on to each one of the three wires so as to insulate it from the copper, my battery was complete. To use it, I simply filled it with a solution of blue vitriol. They now call it copper sulphate. But even *this* battery did not work (at least I thought so) until some time after. Finally one of the school-books, Parker's Natural Philosophy, gave me some needed instruction. It stated that a current of electricity, if passed thru a wire, close to a magnetic needle, the needle would be deflected from its course. I well remember the evening when (by the light of a *tallow candle*) I stretched a wire north and south on top of the dining-table of our humble home. Being unable to possess a compass, I supported a magnetized steel pen (largest size) on top of a needle near the middle of the table. The steel pen promptly pointed to the north; but after I connected the wire that lay just under it with my battery, the pen, instead of pointing north, promptly flopped around east and west. I think I gave a shout of delight, and announced to all the family that my battery *worked*. I soon got enough wire to reach to the further corner of the room; and by making and breaking contact I could keep the steel pen jumping back and forth, and *finally* made it revolve with considerable rapidity by "making and breaking" the current. This schoolbook said, furthermore, that a coil of insulated wire around a soft-iron core would make a temporary magnet. At that date, no such thing was known in the market as insulated copper wire. For insulation I used candle-wicking, and soon had an electro magnet that would pick up tacks and nails, and drop them again as I made and broke the circuit by detaching the wires.

About this time another "electrical show" came to our town of Mogadore, Summit Co., Ohio. I soon scraped up acquaintance with the professor, and he gave me quite a little *encouragement* as well as instruction. I went to our blacksmith, who was a friend of mine, and asked for the largest worn-out file he could possibly hunt up. I had him heat it and draw it out and bend it in a U shape so as to make what is called a horseshoe magnet. Then I patiently ground off the file-marks on a grindstone, and had the electrical professor magnetize it. I think it was strong enough to pick up a small flat-iron. This, of course, was a permanent magnet. By keeping the armature across the poles it would preserve its

magnetic properties. Well, this little electro-magnet covered with the coil of copper wire before mentioned was just about long enough to reach between the poles of my big U magnet. I soon had a "spindle" put thru it at its middle, and then supported it so it could revolve between the poles of the big magnet.

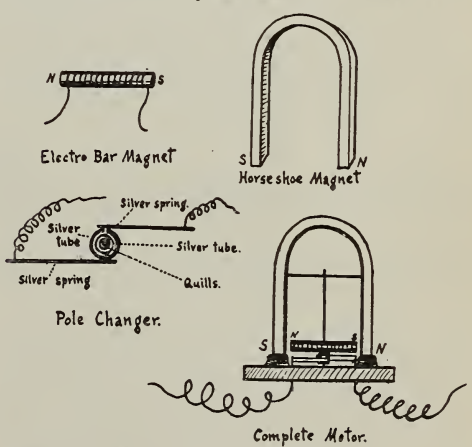
You will notice, perhaps, in the above that I was making a rudimentary electric motor; and the motors of the present day that drive our electric cars and great factories are simply my boyish experiments carried further, on a much greater scale. In order to make this electro-magnet revolve between the poles of the U magnet, the current had to be changed or reversed twice at every revolution. It may be interesting for you to know how a boy out on a farm, without tools or materials, managed to make so complicated a piece of mechanism as what we then called a "pole-changer." I was in the "chicken business," even at that early age, and I pulled quills out of the wings of my biddies until I got some of just the right size to fit closely on the shaft or spindle of my little armature, if that is what it might be called. Then I slipped on a larger quill and so on until I got up to pretty near the size of a silver penholder. In those days it was quite the fashion to have silver penholders. From one of these I cut off a piece of silver tubing perhaps half an inch long. This was pushed closely over the quills I have mentioned. You see the quills were for insulation. Then the two ends of the copper wire making the coil I have mentioned were soldered to the silver tube, one on one side and one on the other. After this was done, from an old ivory comb I cut a little circular set or pair of washers of ivory that I used to slip over the silver tube, one at one end and one at the other. These ivory washers were to insulate the tube and keep it in place after I slit it lengthwise on two sides with a small file so as to make two halves not touching each other anywhere. Then with a silver spring pressing one on one side and one on the other, my pole-changer was complete.

At this stage of my work I had gotten where there were not so many failures. When I first attached my battery wires, the little engine, as I called it, started off with such a whirr that it soon attracted the attention of the rest of the household. With some clock-wheels I made a register so as to ring a bell at every hundred revolutions. With this cheap home-made battery I think my machine (so far as I can recollect), when in first-class order, would make about a hundred revolutions *in a second.*

Let us now go back a little. Besides chickens and electricity I had another hobby. It was windmills. When somebody said that away out west on the desert they made windmills to pump water, I tried my hand at a windmill. We lived on a hill a little north of Mogadore, where there was almost always a good brisk wind. After I got my mill all ready to try, the wind did not blow. It did not blow on Friday nor Saturday; but on Sunday morning there was a nice brisk wind. I had got things all rigged up to have the windmill run a little spinningwheel, such as they used in those days to spin flax. My good mother was always in full sympathy with all my inventions, and she suspected what was coming with the brisk wind Sunday morning; and while I was getting dressed she said to me something like this:

"Amos, if I were you I would not fuss with that windmill, for today is Sunday, and no doubt there will be a good wind tomorrow, and then you can go to work with a clear conscience."

I cannot remember what reply I made; but I went out and looked at the wind (no joke, mind you), and then I looked at the windmill all ready to have the cloth sails



THE LITTLE MOTOR THAT BOTH PUSHED AND PULLED.

In order to understand the above, keep in mind that "like poles repel and unlike ones attract." In the picture, where the north and south poles are opposite, the revolving magnet would be held quite strongly by the attraction of the two opposite poles; but when the pole-changer represented above *reverses* the direction of the current the two north poles would repel and also the two south poles; and the revolving magnet would quickly swing half way around; but just as soon as it gets in place the little pole-changer reverses the current again, and therefore we have a constant "pushing and pulling" as you will notice. No wonder my little machine started up with a roar that set my boyish heart wild with delight.

The above explanation may help you to understand the principle on which the electric motors of the present day, that run *great factories* of many horsepower, are constructed; and while I dictate these words today, Oct. 16, our people are just installing a motor of *150 horse power* that weighs *over four tons;* and this great motor works exactly on the principle I have tried to explain to you above.

tied up for business. The temptation was too great, even if I was a faithful attendant at Sunday-school at that very early age. I thought I would just give it a little trial. It worked even better than I expected. Well, now, there was nothing to be done to make it run the spinningwheel but to slip on the belt made of some soft material. My mother's warning was ringing in my ears as I did so, and perhaps it helped to make me a little nervous. The spinning-wheel started up with a jump; and before I could get my hand out of the way it caught my thumb between the crank and the upright that held the bearing of the wheel. My yell of pain brought my mother to the spot; and, dear reader, from that day to this it seems to me that whenever I undertake to do anything on Sunday that seems to transgress that command, "Remember the sabbath day to keep it holy," I have been punished, in some way. Mrs. Root says her only brother used to say when he was a boy that it did not *pay* to go fishing on Sunday, as a fellow always has bad luck of some kind. A little later I built a windmill up on top of a pole, and it churned the butter and pumped water for mother. At that time there was scarcely a windmill in Ohio, and mine, of course, attracted a great deal of attention. The only trouble with it was that the cloth sails generally blew to pieces more or less in the first big storm.

When GLEANINGS was first started it was printed with a foot-power press; but it seems to have been received with so much favor that in a little time power of some kind was needed, and my first effort was in the shape of a windmill. I think it was a 17-foot machine placed on top of our two-story brick building. When the wind did not happen to blow, of course we could go back to foot power to get the little journal out on time; and a good many times when the wind sprang up in the night I "sprang up" also, and ran the press by windmill power. When the press went too fast I had to hustle sometimes to feed the sheets and get them in straight; and I had an arrangement so that when the mill ran too slow I could use the foot power until the wind revived and caught up. This was arranged with a sort of ratchet; and when the wind would spring up and come to my relief I would sit on my stool and rest, while I fed the sheets. This same windmill also made our hives, frames, etc. See GLEANINGS for Nov. 1, 1914. I think we used the windmill to print GLEANINGS for two or three years. As gasoline-engines were unknown at the time, when orders for hives came in too fast for the windmill to keep up, a Bookwalter steam-engine was added for reinforcement.

Well, what have windmills to do with an electrical experiment? you may ask. Let us go back a little to the "electro-magnetic engine." By the way, this was the same apparatus that ran the little sawmill that I used on my lecturing trips—see page 614, Aug. 1, 1915. Well, after I discovered that my little battery would run that electric motor with such vim I discovered also that running the motor by *mechanical power* would generate an *electric current*. Even twirling the shaft with the fingers would produce current enough to deflect the steel pen balanced on the point of a needle. Well, what of it? If the windmills I have been describing had been arranged to run that little motor, then the wind would have furnished an electric current to light lamps, run cars, heat our dwellings, or do anything else. You may say this has already been done, but that the power furnished by the wind is so irregular that it has been thought cheaper to use coal or gasoline for our mechanical power. Now we are coming to business.

Both gasoline and coal have lately been going steadily up. We are told by competent authority that more gasoline is being used just now every day than is produced by the whole wide world, and we get along only by drawing on our reserve stores. How long can this last? The same may not be true of coal exactly; but if the people of the United States do not succeed in holding down the gambling in coal we may have a similar state of affairs.

Much has been said on these pages, as well as on the pages of almost every other periodical in the world, about the need of short cuts between "producer and consumer." Now, dear friends, do you get a glimpse of the new hobby that has been making me happy for several days past? You hear the wind blowing over the roof of your house almost daily during these autumn days. There will be more of it when winter comes. It is blowing everywhere—not only over the home of the humblest peasant, but over the roof of the millionaire. Reach up and get it. Get it to run your electric automobiles; get it and use it, "without money and without price." Use it to run all needed machinery about the home. Use it to do your cooking and warming.

Just now I am made happy by having a little electric stove that costs only five or six dollars to warm the bathroom nights and mornings. When we have real cold weather we shall have steam heat; but it does not

seem worth while to put on steam for just a little while nights and mornings. Somebody suggested I might have a little gasoline-stove; but such stoves spoil the air more or less by their fumes. Electricity gives just the heat you need, and just as long as you need it—no waste, no ashes, no gases. My cousin, Mr. Clark Wolf, living in the suburbs of the great city of Akron, a few days ago showed me an electric cooking-stove. It would roast, bake, or boil anything. There was a sort of clock attached to the stove, and Mrs. Wolf could set the apparatus to heat at *any temperature,* and keep it hot just so many minutes or hours, and no longer; and then the faithful electric servant would carry out the instructions to the letter. There was also combined with it a "fireless cooker." It would heat the food just so many minutes or to just such a temperature, and then shut off the current and let the "fireless" do the rest without expense. The price given for the current to the great city was so low that Mr. Wolf thought, all things considered, that the current might be cheaper than either wood, coal, gas, or gasoline, for cooking and warming; and there were no ashes and no bad gases.

I have already told about the little electric automobile here in Ohio that carries me wherever I want to go, from a few steps to thirty or forty miles. Well, I am planning also to have an electric automobile in Florida. Now do not be in haste to call me extravagant when I tell you that this new electric will not cost more than half as much as the automobiles that we see all around us. In fact, it costs only about *a fourth* of what some of them do. With the windmill to furnish the current the expense will be far less than gasoline. In fact, it will not cost you anything except to replenish the batteries; and the latest improved batteries are said to give 10,000 miles of travel before they will need replenishing in any way. I may not live to see the time, dear friends, when wind power shall furnish the world with heat, light, and fuel, simply by reaching out your hand and taking it as a free gift; but even if I do not, I am sure that some of you will.

Once more, is there any danger that selfish and greedy men shall make a monopoly of wind power? Can they get a "corner on the market"? Is there any danger there will not be room enough overhead for the windmills that may be needed? When you sing again, "Praise God, from whom all blessings flow," do not forget to include among his many blessings the gentle breezes and the raging wind that purify the air and which are going to prove in the near future one more great and precious gift that we have only to reach out and *take* from the hands of the loving Father.

HIGH-PRESSURE GARDENING

OUR OHIO GARDEN.

Today, October 24, our garden stuff is practically all gathered, and I thought I would make a little summing up. On page 802, October, I said my one peck of Early Ohio seed potatoes gave ten pecks. Of course that is nothing to brag of; but the Early Ohio, even if it is of excellent quality, is a poor yielder as a rule. Just when seed potatoes were hard to get, our Medina folks sent to Michigan and got a carload of the Rural New-Yorker. From one bushel of these Rurals I grew 25 *bushels* of nice potatoes, even if it was almost July before they were planted. I not only dug them myself, but wheeled them up from away down on the creek bottoms; and I want to tell you what kind of wheelbarrow I used.

MY NOVEL WHEELBARROW.

Something over a year ago I told you of getting a very light little cultivator of Sears, Roebuck & Co. In fact, it weighs a little less than 20 lbs. Well, the big heavy wheelbarrows that we have over at the factory are almost a load for an old man like myself, to say nothing of potatoes. Now I will tell you what I did. I just turned over my little light cultivator so the plow part was up in the air. Then I set a bushel basket between the handles, and I had a very nice light easy-running wheelbarrow. Digging a bushel of potatoes every forenoon and afternoon, and wheeling them on the little cultivator, is just about the kind of exercise I need to keep in good health. My son Huber, across the way, after seeing me wheel potatoes, took his heavier cultivator and set across it *two* bushel boxes. I give you the above suggestion so that when you do not have a wheelbarrow handy, or perhaps do not own one at all, you can make almost any garden cultivator do the work of a wheelbarrow.

By putting on the rake attachment you can hang a basket or two on the teeth of the rake, or lay your hoe across the rake teeth in a like manner.

By the way, we had such a late and cold spring that much of my garden stuff was too late to mature; but we succeeded in growing quite a few dasheens, even if the frost did catch them early in October. This is the fourth season we have grown them here in Ohio, and I still think that a soup made of dasheen tubers, eaten with crackers, is about as good as an oyster stew.

THE BABY'S DELIGHT WATERMELON.

We have grown this luscious little melon again this season. There are three things that, in my mind, put them ahead of any other watermelon. First, the seeds are so small that you do not have to bother with them at all. Just go right ahead as if there were no seeds. Second, the little melons are delicious, even if they are not ripe. Third, they are so very early that they are ready for use before any of the big melons get anywhere near it. I do not think that any of them this year got really ripe. When I saw that the seeds and the flesh were not even colored at all when frost came, I thought they were no good until I tasted. Mrs. Root said, "Now, look here. If you eat all of that unripe melon for supper you just see what will happen." Well, nothing *did* "happen," and I have done the same thing again and again; and I do believe they are the most luscious watermelon I ever tasted, even when unripe. Burpee suggests in his catalog that they are just right to serve like grapefruit, giving each guest half a melon; but he says the average guest would be pretty sure to want the *other* half after he had finished the first one.

DREER BUSH CANTALOUPE.

When I saw by Dreer's catalog that they had a cantaloupe that grows on *bushes*, it made me think of the old couplet:

Hail Columbia, happy land!
Where the gold it hangs on bushes,
And the fish swim on dry land.

Dreer says that, on account of the bushy habit, one can plant the melons only three feet apart; and I confess I rather expected to *see* the melons hang on the bushes. They did not do that, however; but just as soon as the great sturdy plants began to branch out, the little melons set so thickly as almost to touch each other. They are not quite as large as the baby watermelons, but are fully equal to any other cantaloupe we have ever gotten hold of unless it is a cantaloupe that was brought us by "Mel Pritchard." I think he said he got it of Kellogg, the strawberry-man, of Three Rivers, Mich. He said the seed cost something like a *dollar* for a teaspoonful. This cantaloupe is certainly one of the best; and it has such a small cavity for the seeds that you have a good lot of luscious melon. I do not suppose the seed will cost so much another season.

THE POTATO-PENS AND THEIR OUTCOME UP TO DATE.

It seems this whole thing has turned out even worse than I anticipated. The most promising-looking pen in our vicinity—one that showed rank-looking vines over the top of the pen, and to a certain extent over the sides, did not give as many potatoes as were planted. Only those on top or near the top, and those close to the outside, made any growth at all. Quite a number of inquiries have come in in relation to this matter. Below is one of the replies I received from *Successful Farming:*

Dear Mr. Root:—Thank you very much for advising about the results produced by the potato-pens. It seems that people will have to go along continuing to use the level surface of the earth for potato-growing instead of building towers of Babel or growing potatoes in the air.

SUCCESSFUL FARMING.
F. J. Wright, Ass't Adv. Mgr.
Des Moines, Iowa, October 20, 1917.

There is a good wholesome moral in this whole thing. When you are looking for accurate information as to what is being done in the farming business or any thing else, do not get your information from the *Sunday daily papers.*

Later.—I have just received one more report which, perhaps, we may say is a little more encouraging. A friend of mine made a small pen and planted one peck of potatoes. He just reported digging three pecks of very nice large tubers. But this friend took great pains, even hauling rich soil from the river-bottom two miles away; and he has actually succeeded in getting *three times* as many potatoes out of his pen as he planted —not very encouraging when we consider that he ought to have had something like 25 pecks from the one peck if it had been planted in the good old-fashioned way.

A REPORT FROM THE "HENDRICKS PEN."

Dear Mr. Root:—I made a trip to Mr. Hendricks, of potato-pen fame, whom I found at home. By the way, I had known him for a number of years. His pen, a small one, was a total failure. He says he is not discouraged, however, and will profit in future by his experience. In the first place he says a friend brought him a load of fertilizer which caused the potatoes to grow to vines. It should have been a light soil with mostly sand and trash to keep it loose. He also says "the excessive rains caused the soil to pack and bake—should have had a cover to shed off the rain." Some reports he received were a success, but mostly failure. I have seen

several pens which I do not think were even dug. His pen had a few "marbles."

Mr. Hendricks was "misquoted" by the papers. He says that he had not tried it in Missouri, nor since 1878, potatoes always being cheap until last year. Owing to Mr. Hendricks' health he could not tend to it right. Very truly,

Kansas City, Mo., Nov. 4, 1917. G. P. STARK.

ELECTRICITY FOR WIND POWER.

The letter below is one of my happy surprises. After what has been said I think it will be read with interest:

Mr. A. I. Root:—I saw a notice in GLEANINGS for October, page 811, asking for information about using wind to generate electricity. I have such a plant, and have used it three years, and it has proven to be a success. I am sending you several pictures of the mill, batteries, switch-board, and motor doing different kinds of work. We also churn, iron, and run a vacuum-cleaner, charge auto batteries, etc. We charged 30 of them last winter for different parties. We cleaned 5000 bushels of grain last spring with it. The wheel is 16 feet in diameter. The rim is seen on the outside of the wheel which the belt runs on. The generator is on the tower, always in line with the wheel. The belt runs from the wheel over an idler to a three-inch pulley on the generator, and back to the wheel. It is arranged so that if the mill generates more than is being used, the rest goes to the batteries; and if not enough, the lights draw the rest from batteries. If the wind goes down, the lighting work goes on with the help from the batteries. As the wind power is not steady, the voltage is not always the same. The volt-regulator on the switch-boards holds the voltage on the lights always at 32 volts. The mill will generate as high as 45 volts, and from 1 to 30 amperes, according to the wind.

This windmill cannot be used for other work. That and the switch-board for regulating the windmill current were invented by George Manikowski, of Wyndmere, N. D. They have a plant there for manufacturing the same. The name of the company is Wind Electric Co., Wyndmere, N. D. They would be glad to send you a full description of it if you will write them. I refer you to the Agricultural College, Fargo, N. D. This young man received a good part of his electrical education there.

We farm 2200 acres here in a body, and use a lot of electricity. I have tried the plant for three years, and it has "stood up to the load." They have a better wheel today.

Mr. Root, you seem like an old friend. I took GLEANINGS in 1879, 1880, and 1881. At that time I lived in Williamsport, Pa. In the spring of 1882 I came to North Dakota. I thought it was too cold for bees here, but I have never lost the liking for them in all this time. Two years ago last spring I thought I would try them again and also GLEANINGS. Bees do well here in summer, and they winter all right if well packed. My bees averaged over 100 lbs. to a colony this year, mostly on sweet clover. It grows well here, as does alfalfa. I use a lot of both for hay. I know you are a busy man, but I hope you will write and let me know what you think of the windmill outfit. T. A. WILLIAMS.

Rt. 1, Cleveland, N. D., Oct. 15, 1917.

After reading the above I at once asked for further particulars about charging the thirty auto batteries, and below is his reply:

We charged the common auto light and ignition batteries. It is so cold here that they have to be stored and recharged about once a month to keep them good. There are no electric cars nearer than Jamestown, so we have never had any experience with them. My oldest son is an electrician. He says the plant is all right for electric-car batteries, and for charging common batteries. He made a switch-board for controlling the amperage, thus governing the amperes by the number of lights he turns on; but for electricity for batteries one would not need this—simply charge direct from the plant.

Cleveland, N. D. T. A. WILLIAMS.

In regard to beekeeping in the Dakotas, I have remarked before that I have for some years owned half a square mile near Mitchell, S. D.; but I had somehow gotten the impression that there was not very much for bees in that region. Our good friend Williams, however, tells us he averaged over 100 lbs. per colony, and I presume this comes about because of the introduction of sweet clover and alfalfa.

In regard to the Wind Electric Company, Wyndmere, N. D., I am trying to get them to ship me an outfit to my Florida home. The generator is on top of the tower close to the windmill, and the power comes down to the ground by just a simple wire, thus avoiding a great lot of useless machinery, friction, etc.

Later:—Bradentown, Fla., Nov. 13, 1917. I have just ordered an outfit such as described above; and the inventor, Mr. Manikowski, is to come down here and install it.

"THE AIRLINE BUZZER."

The above is the title of a little sheet started by our office people; and the editor, Mr. Garges, asked me to give a little talk on how to succeed in business. Well, inasmuch as the Airline Buzzer is all printed on one side of a sheet of paper 10 by 7 my thoughts must, of course, be "boiled down," and here it is:

A MESSAGE FROM A. I. ROOT.

I have been asked to give a little advice briefly as to how to succeed in business, etc. This reminds me that in olden times, in reply to the question "How to get a long *well*" the answer was, "Dig it deep."

Well, my advice to the young people, both boys and girls, starting out in life's business is to "dig it deep." Whatever you go into, make yourself master of all that has been done or is being done along your line of work.

When I started out to make bee culture my business for life, I hunted up all the bee-books published in America. Then I did the best I could to get hold of the bee literature of the whole wide world. When the only copy I could get of the celebrated Huber was printed in German, I hired a German schoolma'am to read it to me and translate it into English. I well remember the puzzled expression on her face when she asked me if I had ever heard of anything like "bee-cradles." At first I was almost as much in the dark as my teacher; but pretty soon I said, "Oh, yes! queen-cell." Then she too smiled and said, "Yes, I guess that *is* it."

Well, now, my good friends, my advice is, if you wish to succeed in *anything* you happen to work at, study it up night and day. Get to be master of all that has been done in that line in the whole world. In other words, "Dig it deep."

Index to Gleanings in Bee Culture

Volume XLV

In using this index the reader should not fail to note that it is divided into five departments ,namely, General, Editorial, A. I. Root's writings, Contributors, and Illustrations. The index of General includes everything except Editorials, Illustrations, and A. I. Root's writings.

GENERAL

Y

EDITORIAL

A. I. ROOT'S DEPARTMENT

ILLUSTRATIONS

CONTRIBUTORS

Classified Advertisements

Notices will be inserted in these classified columns for 25 cts. per line. Advertisements intended for the department cannot be less than two lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

HONEY AND WAX FOR SALE

Beeswax bought and sold. Strohmeyer & Arpe Co., 139 Franklin St., New York.

Small lots off-grade honey for baking purposes. C. W. Finch, 1451 Ogden Ave., Chicago, Ill.

Extra quality light-amber extracted honey in 60-lb. cans. It's fine; 12 cts.
Joe C. Weaver, Cochrane, Ala.

FOR SALE.—Michigan's best white extracted honey in packages as desired. Also comb honey.
A. G. Woodman, Grand Rapids, Mich.

FOR SALE.—Old Kentucky clover extracted, thick and ripe. Packed in bright 60-lb. tins.
H. C. Lee, Brooksville, Ky.

FOR SALE.—11,000 lbs. clover and basswood extracted honey put up in 60-lb. cans. Who wants it, and at what price? Sample, 10 cts.
W. M. Peacock, Mapleton, Ia.

FOR SALE.—Clover, heartease. No. 1 white comb, $4.25 per case; fancy, $4.50; extra fancy, $4.80; 24 Danz. sections to case, extracted, 120-lb. cases, 15 cts. per lb. W. A. Latshaw Co., Carlisle, Ind.

FOR SALE.—12,000 lbs. of white extracted alfalfa-clover honey in new 60-lb. cans, 15c per lb., F. O. B. Hardin. Cash with order. Sample 10c.
Custer Battlefield Apiaries, Hardin, Mont.

$1.50 pays for a year's subscription each to the Domestic Beekeeper and Gleanings in Bee Culture. You can order them from either office as you prefer.

HONEY AND WAX WANTED

WANTED.—Comb and extracted honey.
J. E. Harris, Morristown, Tenn.

WANTED TO BUY beeswax. Highest prices paid W. A. Latshaw Co., Clarion, Mich.

WANTED TO BUY a quantity of dark and amber honey for baking purposes.
A. G. Woodman Co., Grand Rapids, Mich.

WANTED.—Comb and extracted honey at jobbing prices. National Honey Producers' Association, Kansas City, Mo.

WANTED.—Extracted honey in both light and amber grades. Kindly send sample, tell how honey is put up and quote lowest cash price delivered in Preston. M. V. Facey, Preston, Minn.

WANTED.—WHITE OR LIGHT-AMBER extracted honey in any quantity. Kindly send sample; state how it is packed, and your lowest cash price. Can also use beeswax. E. B. Rosa, Monroe, Wis.

Chas. Israel Bros. Co., 486 Canal St., New York. Established 1878. Wholesale dealer in Honey and Beeswax. We buy Honey. Send us samples and the quantities you have, also your best price delivered New York. We pay the highest market price for clean, bright yellow beeswax.

BEESWAX WANTED—We are paying higher prices than usual for beeswax. Drop us a line and get our prices, either delivered at our station or your station as you choose. State how much you have and quality. Dadant & Sons, Hamilton, Illinois.

WANTED.—To buy light extracted and No. 1 comb honey; also a few cases of buckwheat comb.
Wm. G. Blake, Port Huron, Mich.

WANTED.—Beeswax. We pay higher than market price; let us know how much you have and if possible send sample; get our quotation before selling your wax. Queen Mfg. Co., Falconer, N. Y.

Be sure to include the Domestic Beekeeper with your list of bee-journals for 1918.

The Domestic Beekeeper will help you to dispose of your crop of honey without expense to you; also buy your beekeeping supplies for you at cost. If you knew all we are doing for our subscribers you would certainly be with us during 1918 as a subscriber. Can we have the pleasure of entering your name on our subscription list? Address The Domestic Beekeeper, Northstar, Michigan.

FOR SALE

FOR SALE.—A full line of Root's goods at Root's prices. A. L. Healy, Mayaguez, Porto Rico.

FOR SALE.—Some fine 10-frame hives. Write
James McKee, Riverside, Cal.

FOR SALE.—Honey-jars, both small and large sizes. Write for prices. D. H. Welch, Racine, Wis.

SEND TODAY for samples of latest Honey Labels. Liberty Pub. Co., Sta. D, Box 4-E, Cleveland, Ohio.

Beekeepers, let us send you our catalog of hives, smokers, foundation, veils, etc. They are nice and cheap. White Mfg. Co., Paris, Tex.

FOR SALE.—500 extracting-supers, nailed and painted, with frames. Will sell cheap.
A. F. Stauffer, Delta, Colorado.

SHELLED PEANUTS.—5, 10, and 25 pound packages, 15c pound, add postage.
D. W. Howell, Shellman, Ga.

THE ROOT CANADIAN HOUSE.—73 Jarvis St., Toronto, Ont. (note new address). Full line of Root's famous goods; also made-in-Canada goods. Extractors and engines; GLEANINGS and all kinds of bee literature. Get the best. Catalog free.

Going out of business. Will sell at bargain entire outfit consisting of 50 colonies first-class 3-banded Italian bees, 250 supers, extractor, and all necessary supplies. Everything in good condition. Address Lorne Becksted, Rt. 4, Box 18, Watertown, N. Y.

Hive-outfit bargain, quick! Iron-frame hive-saw, 12-inch saw, and dado heads, Huther Bro's, complete for hive-making, 12 ft. belting; three-horse-power motor, electric; 1 three-ft. driving-shaft; fast and loose pulleys; 18-inch driving-wheel, all good as new. Cost $250.00 Will sell for half, if sold at once. Address Beekeeper, Medina, Ohio, care A. I. Root Co. 38392

You have likely been thinking for some time that you would like to have the Domestic Beekeeper come to you regularly each month, but have been putting it off for some reason or other. We should like very much to have you all start in with us this next year. We are very sure you will not regret it if you make this start. To some of the early December subscribers for 1918 we will send free the last three numbers of 1917. If you expect to get in on this back-number proposition you will need to be prompt in ordering, as those back numbers are going fast and there will be none when the present supply is exhausted. Address with remittance The Domestic Beekeeper, Northstar, Michigan.

WANTS AND EXCHANGES

WANTED.—Foot-power saw.
Raleigh Hamond, Rt. 2, Bethune, S. C.

WANTED.—Second-hand 2-frame extractor with large-size pockets. Box 43, Fleming, O. 61907

WANTED.—One four-frame honey-extractor with 12-inch baskets. Fred Alger, Omro, Wis.

WANTED.—Airsdale or Irish Setter female puppy. E. H. House, Saugatuck, Mich.

WANTED.—Old-style extractor and foundation mill. Jesse Chapin, New Berlin, N. Y.

WANTED.—A comb foundation press, second-hand, but in good condition, for full-size combs.
W. D. Achord, Fitzpatrick, Ala.

BEESWAX WANTED.—For manufacture into Weed Process Foundation on shares.
Superior Honey Co., Ogden, Utah.

WANTED.—50 to 100 colonies bees in eastern North or South Carolina or Georgia.
I. J. Stringham, 105 Park Place, New York.

WANTED.—An extractor, two or four frame; must be in good condition, and a bargain.
J. O. Stewart, 742 Elmore Pl., Brooklyn, N. Y.

WANTED.—Foundation machine, brood foundation. Give full description and price. Machine must be in good condition.
W. J. Stahmann, Clint, ElPaso Co., Texas.

WANTED.—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5 cts. a pound for wax rendered.
The Fred W. Muth Co., 204 Walnut St., Cincinnati, O.

OLD COMBS WANTED.—Our steam wax-presses will get every ounce of beeswax out of old combs, cappings, or slumgum. Send for our terms and our new 1917 catalog. We will buy your share of the wax for cash or will work it into foundation for you. Dadant & Sons, Hamilton, Illinois.

It will be the same to us whether you remit for the Domestic Beekeeper direct to Northstar, Michigan, or whether you send it in with your subscription to Gleanings in Bee Culture; but be sure to include it as we want every Gleanings in Bee Culture subscriber to become a Domestic Beekeeper subscriber.

BEES.—Experienced bee man would work few hundred colonies of bees on shares in irrigated district. Good references.
Geo. Bancroft, Carrolls, Washington.

AUTOMOBILE REPAIRS

AUTOMOBILE owners should subscribe for the AUTOMOBILE DEALER AND REPAIRER; 150-page illustrated monthly devoted exclusively to the care and repair of the car. The only magazine in the world devoted to the practical side of motoring. The "Trouble Department" contains five pages of numbered questions each month from car owners and repairmen which are answered by experts on gasoline-engine repairs. $1 per year. 15 cents per copy. Canadian subscriptions $1.50. Postals not answered. Charles D. Sherman, 107 Highland Court, Hartford, Conn.

REAL ESTATE

YOU CAN DO BETTER ON A SOUTHERN FARM. Send for a year's subscription Free to our beautifully illustrated magazine, The Southern Homeseeker, which tells all about good, low-priced land and southern opportunities. Write F. H. LaBaume, Agr. Agt. N. & W. Ry., 246 Arcade Bldg., Roanoke, Va.

A small California farm earns more money with less work. Raise the crops you know about—alfalfa, wheat, barley, etc.—also oranges, grapes, olives, and figs. Ideal for dairying, pigs, and chickens. No cold weather; rich soil; low prices; easy terms; good roads; schools and churches. Enjoy life here. New comers welcome. Write for our San Joaquin Valley, also Dairying and Poultry Raising illustrated folders free. C. L. Seagraves, Ind. Com. A. T. & S. F. Ry., 1927 Railway Exchange, Chicago.

Do you want a farm where largest profits are made? The South's great variety of crops and wonderfully productive climate make it the most profitable farm section of America. It is the place for the lowest-cost meat production and dairy farming. It grows the largest variety of forage crops. Good lands, in good localities, as low as $15 to $25 an acre. Let us show you locations that will give the highest profits. M. V. Richards, Commissioner, Room 27, Southern Railway System, Washington, D. C.

BEES AND QUEENS

Finest Italian queens. Send for booklet and price list. Jay Smith, 1159 DeWolf St., Vincennes, Ind.

PHELPS queens will please you. Try them and you will be convinced. C. W. Phelps & Son.

Well-bred bees and queens. Hives and supplies.
J. H. M. Cook, 84 Cortlandt St., New York.

FOR SALE.—Bees, queens, and honey in their season. H. G. Quirin, Bellevue, O.

"She-suits-me" bright Italian queens; $1 by return mail till Oct. 1.
Allen Latham, Norwichtown, Ct.

Try ALEXANDER'S Italian queens for results. Untested, each, 75 cts.; 6 for $4.25; $8 per dozen. Bees by the pound. C. F. Alexander, Campbell, Cal.

When it's GOLDENS it's PHELPS. Try one and be convinced.
C. W. Phelps & Son, Binghamton, N. Y.

Tested leather-colored queens, $2.00; after June 1, $1.50; untested, $1.00; $10.00 per dozen, return mail. A. W. Yates, 3 Chapman St., Hartford, Conn.

Vigorous prolific Italian queens, $1; 6, $5, June 1. My circular gives best methods of introducing.
A. V. Small, 2302 Agency Road, St. Joseph, Mo.

Italian queens, THE HONEY GATHERERS. Price one dollar each, nine dollars a dozen. Edith M. Phelps, 259 Robinson St., Binghamton, N. Y.

My bright Italian queens will be ready to ship April 1 at 75 cts. each; virgin queens, 35 cts. Send for price list of queens, bees by the pound and nucleus. Safe arrival and satisfaction guaranteed. M. Bates, Rt. 4, Greenville, Ala.

Golden Italian queens from June to November, untested, 75 cts.; 6, $4.25; doz., $8.00; tested, $1.25; 6, $7.00; select tested, $1.50; breeders, $5.00. Bees by pound or nucleus. Pure mating guaranteed. Send for circular. J. I. Danielson, Fairfield, Ia.

TENNESSEE-BRED QUEENS.—My three-band strain that has given such universal satisfaction for over 40 years. Orders filled promptly or money refunded by first mail. 1000 nuclei in use. Tested, in June, $1.75; untested, $1.00; in July, $1.50 and 75 cts. Postal brings circular.
John M. Davis, Spring Hill, Tenn.

ITALIAN QUEENS, northern-bred, three-banded, highest grade; select untested, guaranteed; queen and drone mothers are chosen from colonies noted for honey-production, hardiness, prolificness, gentleness, and perfect markings. Price, one, $1.00; 12, $9.00; 50, $30.00. Send for circular.
J. H. Haughey, Berrien Springs, Michigan.

FOR SALE.—Must sell my bees because I am drafted; will sell cheap; make me an offer on the following: 20 stands strong healthy bees, 2-story 10-frame; some 2 some 3 years in use, one empty hive, 100 extracting-frames, one Cowan reversible extractor, used 1917; 12 doz. 1-lb. jars; 50 3-lb. cans; 1 doz. winter cases; 5 lbs. comb foundation; 300 A1 sections; 10 wood and wire queen-excluders, used 1917, and the dozen and one other appliances necessary to make a complete outfit. These articles are all first-class goods. Make your best offer, you to take bees at yard, to Ed. Gill, Huntington, Ind.

Southwest Virginia five-band Italian queens, the fancy comb-honey strain, gentle to handle. They will please you. Try one. $1.00 each.
Henry S. Bohon, Rt. 3, Box 212, Roanoke, Va.

HELP WANTED

EXPERIENCED BEEMAN wanted to work mountain apiary on percentage. Fine hunting and climate. References given and required.
C. F. Alexander, Campbell, Cal.

HELP WANTED.—A good reliable man to work on a small farm and help take care of 400 swarms of bees. Would lease the complete outfit to responsible party. Good locations for all the bees. Address S. R. Stewart, Newcastle, Colo.

Special Notices by A. I. Root

WHEN GLEANINGS WAS PRINTED BY WINDMILL POWER.

Since page 956 was in print I have found mention in our back volumes of nearly forty years ago that when the wind-power press ran too fast for my inexperienced hands to feed the sheets, Ernest and Maud (our two oldest children) helped; and when I did not have time to get the sheets straight after being printed, the children pushed them up in a pile; and I now recall that sometimes, when the wind gave a sudden spurt, it was too big a job for the whole of us, and a great lot of sheets were piled up helter-skelter. When the wind slacked up a little we straightened things out.

THAT "ADDRESSED POSTAL CARD," ONCE MORE.

In our issue for November I did not have space to tell you (once *more*) that down in my Florida home I have no stenographer, but that if everybody writing me would inclose an addressed postal card, properly stamped (two cents), I would do my best to give you a prompt answer on said postal. At my age I cannot undertake to write *long* letters to anybody; neither can I undertake to decipher addresses. If you will send an addressed postal card I shall have nothing to do but to write the answer; and if I am in a hurry I do not even need to try to decipher the name of the one who writes. Matters pertaining to business with the A. I. Root Co. should be sent to Medina, Ohio; but questions regarding Florida gardening, "windmill electricity," chickens, etc., can be mailed to A. I. Root, Bradentown, Florida.

VEGETABLE FORCING; OR, GARDENING UNDER GLASS.

The above is the title of another new book by the O. Judd Co., clear up to date. It contains 425 pages and 158 beautiful illustrations. It discusses the whole subject of vegetable forcing from beginning to end. There are 28 pages devoted to lettuce alone, principally the Grand Rapids kind. With the high prices that vegetables grown under glass are now bringing there is a greater incentive than ever before to push this winter industry. The book is written by Ralph L. Watts, Dean and Director, School of Agriculture and Experiment Station, The Pennsylvania State College. One thing that impressed me is the dedication, which reads as follows:

"To my mother, my first teacher in vegetable gardening."

The above comes home to me because it was my mother who first taught me how to plant seeds and how to make them do their best. May God bless the mothers! This beautiful book is a gem in the way of print and engraving; and so far as I have reviewed it I should pronounce it, unhesitatingly, the outcome of practical experience in the work. The price, postpaid, is $2.00. It may be ordered of the O. Judd Co., New York, or of us, if you choose, at the price mentioned.

Our Food Page.—Continued from page 943.

Nov. 1, was a case of "Hamlet with Hamlet left out:" and it was a nice man among our readers who noticed the omission too. Thank you, Mr. Subscriber, for the very kind words with which you accompanied your criticism. I am beginning to believe beekeepers, at least GLEANINGS readers, are the most appreciative of men.

Please add one cup cooked and sifted pumpkin to that unfortunate recipe, and, on account of the sugar famine, try 2/3 cup honey and no sugar. Mr. Puerden says that makes the best pumpkin pie he ever tasted.

Altho Christmas falls on a meatless day I have taken it for granted that you will substitute another meatless day for that week.

I have tried to plan the simple Christmas dinner so that most of the work can be done the day before. All holidays are apt to be help-less days for us housekeepers.

Notice that the Christmas menu calls for no candies. This will be the first time in many years that I have not made pounds and pounds of candy to give away. I had intended to do the same this year and send it to my soldier friends; but on account of the uncertainty of the sugar supply I intend to send jellies, honey, sweet dried fruits, chocolate, and possibly honey drop cakes. In this vicinity we are cutting out all Christmas giving among grownups, and are using the money to pay for yarn for the Red Cross knitting, and for Christmas gifts to the soldiers.

In the recipes all measurements are level and the standard set of measuring spoons and the standard half-pint cup are used.

BAKED BEANS

1 qt. navy beans	1 tablespoon salt, or more to taste
3 tablespoons honey	
2 tablespoons sweet bacon or pork fat	1 teaspoon soda
	½ teaspoon mustard
	water

Wash and pick over beans and soak several hours or over night. Put on the stove with soda and plenty of water and cook slowly until tender, but not broken. Drain and put in baking-dish with the bacon or pork fat. Measure the honey into a cup; add the mustard and salt and fill the cup with hot water. Pour over the beans and add more hot water until you can just see it. Cover and bake slowly at least two hours, then uncover and bake an hour longer, adding more water if necessary to prevent burning. The beans should be whole, tender, and should have absorbed all the water.

CREAM OF CELERY SOUP

1 cup celery chopped fine	2 slices onion
1 cup mashed or riced potato	2 tablespoons butter substitute
1 qt. milk	2 tablespoons flour
1 teaspoon chopped parsley	2 teaspoons salt
	Dash of paprika

Cook the chopped celery and the onion in very little water until tender; add the potato and the milk and bring to boil. Blend the flour, butter, and salt, and thicken the soup with it. Cook gently several minutes; add the chopped parsley and paprika, and serve.

POTATO MUFFINS

1 cup mashed or riced potatoes	1½ cups flour
	4 teaspoons baking powder
1 egg	
1 cup skimmed milk	2 tablespoons butter substitute
½ teaspoon salt	

Beat the egg, add the potatoes, and then the milk. Sift the salt and baking-powder with the flour and sift into the first mixture. Beat well. Add the melted-butter substitute and bake in muffin-pans in a hot oven about twenty-five minutes.

APPLE TAPIOCA PUDDING

1/3 cup granulated tapioca	¼ teaspoon salt
	1 tablespoon butter substitute
2/3 cup honey	
1 teaspoon cinnamon or nutmeg	6 large tart apples
	2 cups water

Pour the water over the tapioca and salt, stirring constantly; bring to a boil and cook in double boiler until clear. While the tapioca is cooking, pare, core, and quarter the apples; arrange them in an oiled baking-dish. Add the butter substitute, the cinnamon, and honey to the tapioca; stir until smooth; pour over the apples and bake until the apples are tender. Cool, and eat with cream or milk.

WELCH-RAREBIT

2 tablespoons butter substitute	dash paprika
	½ teaspoon made mustard
2 tablespoons flour	
1½ cups milk	½ teaspoon salt
½ cup cheese cut fine	1 egg

Blend the butter substitute and flour in saucepan; add the milk slowly, and, when it thickens, the cheese and seasoning. Stir until the cheese is melted and smooth. Add the egg slightly beaten, and serve with the baked potatoes.

HONEY SUET PUDDING

1 cup suet chopped fine	1½ cups whole-wheat flour
1 teaspoon salt	
¾ cup honey	1 to 1½ cups white flour
1 egg	1 teaspoon soda
1 cup dates or raisins cut fine	1 teaspoon baking-powder
	1 teaspoon cinnamon
1 cup sour milk	½ teaspoon cloves

Blend the suet with the honey; beat in the egg; add the sour milk and then the flour in which the dry ingredients have been sifted. Flour the fruit lightly and add last. If raisins are used it is well to steam them a few minutes before putting in the pudding. The pudding should be about as stiff as fruit cake. Steam in well-oiled pan for two or three hours. It is quite as good reheated.

CHRISTMAS SAUCE.

1 cup pulverized sugar	Cranberry jelly
1/3 cup butter	

Cream the butter and pulverized sugar together until smooth, then beat in the cranberry jelly drop by drop until the desired pink shade is attained. Heap in a pretty glass dish and set in a very cold place until firm. The sweetened juice from cranberry sauce will do just as well as the jelly.

HONEY-SAUCE

1 cup extracted honey	1/3 cup butter

Slightly warm the butter and blend with the honey, and beat until smooth. Any flavor may be added if desired.

A KIND WORD FROM AWAY OFF ACROSS THE GREAT WATER.

Please tell Mr. A. I. Root how much I enjoy Our Homes in GLEANINGS. I always read that section first. I was requested a few weeks ago to give an address on the moral aspects of beekeeping, and among other things I mentioned to the young people I was addressing that we had an American monthly journal on beekeeping that did not consider it incongruous to have a portion set apart for the scattering of the gospel. I hope that, when the old veteran has gone, some one among you will keep this section going. SAM'L LUDHAM.

Webb's Farm, Lower Bentley, Bromsgrove, Worcestershire, England, Oct. 20, 1917.

AROUND THE OFFICE

M.-A.-O.

A gasoline-engine manufacturer claims now to have heard from Emmet Bumpus, the same who wrote a certain beekeepers' supply house about his "extrackter" with no handle. First came a telegraph day message followed by a letter. So here follow more of E. Bumpus:

Mildew Hollow, Mich., Oct. 22, 1917.
The Star Engine Co.,
Detroit, Mich.

Cannot get engine stopped that runs honey-extractor. What shall I do? Both hands of myself and wife also all blisters. Still she runs like a devil. Answer quick. As I have twenty words more will say that I will write and tell you all about it. Only answer quick. EMMET BUMPUS.

The Star Engine Co.,
Detroit, Mich.

Deer Sirs:—Sum time ago i swopped my huny extrackter what yoo turn with a crank for a frixtion drive masheen that is run with wun of these here gasalene enjins, i red all the directions and then tried to start the enjin but the thing wouldent start. i munkied about 2 hours and well into noon until my wife she give me fits fer getting all dobbed up with greese and dirt and late for dinner to boot which she thinks is an awful crime. after dinner i red the directions agen and find out i have forgot to put in any gasalene. So i goes to my tin lizzy and gets about a kwart and then she runs o. k. she is still running. i tried to take a holt of the wheel to stop her an my wife she tried to and we each tried toogether at the same time but no yoose. i see that it is marked on the side 1½ horse-power so we have give up trying to get it stopt. the tank is still ½ full of gasoline so it will run about 5 hours yet. when yoo get this letter send us a telegraf at wunce, telling us how to stop said enjun. i have just desided to send yoo a telegraph myself, as it will get to yoo kwicker, so by the tiue yoo get this letter yoo wont need to send another telegraf. my wife she is still trying to get the d—— thing stopt. i tell her she is a foole to munky with masheenery what she don't understand and she tells me to shut my fase, so yoo see that is what a man gets for trying to keep his wife from getting hurt and mebbe crippled up for life. wimmin never can understand until to late, and then they blame yoo for what is there own fault.

hoping yoo are the same, i am
yoors truly,
EMMET BUMPUS.

P. S.—my wife she got it stopt after all. she turned it upside down and all the gasalene run out and the wheels hit the floor and it kept going till it bumped against the wall.

* * *

Some evil-minded genius of a beekeeper wrote M.-A.-O. recently asking me if I couldn't entangle Dr. C. C. Miller in a verbal stand-up-and-knock-down with some other disputatious sunofagon of a beekeeper somewhere. I have lost the letter, but it seemed to mean that the writer would rather see Dr. Miller performing in a verbal combat with some poor galoot of a beekeeper who didn't know enough not to, than he would to attend a country circus and stay for the 10c concert after the main show.

* * *

This Around-the-Office department, with its epileptic cats, fishing-tackle, skunks, and Mel Pritchard, will turn up something useful yet, in spite of itself, for here comes G. H. Parker, of Palmyra, N. Y., who writes as follows: "In the November issue of Gleanings M.-A.-O. tells about skunks in an

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., OF GLEANINGS IN BEE CULTURE, PUBLISHED MONTHLY AT MEDINA, OHIO, REQUIRED BY THE ACT OF AUGUST 24, 1912.

Editor, E. R. Root, Medina, Ohio; Managing Editor, H. H. Root, Medina, Ohio; Business Manager, J. T. Calvert, Medina, Ohio; Publisher, The A. I. Root Co., Medina, Ohio.

Owners: The A. I. Root Co. Stockholders holding 1 per cent or more stock as follows:

A. L. Boyden, Carrie B. Boyden, Constance R. Boyden, L. W. Boyden, Mildred C. Bryant, H. R. Calvert, J. T. Calvert, Maude R. Calvert, A. I. Root, E. R. Root, H. H. Root, Susan Root, H. E. Aylard, Gdn., Addie M. Shaw, W. L. Shaw, A. A. Bostwick, Mrs. Amelia Bostwick.

There are no bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities.

(Signed) E. R. ROOT, Editor.

Sworn to and subscribed before me this 1st day of October, 1917.

(Signed) H. C. WEST,
[Seal] Notary Public.
(My commission expires Mar. 27, 1919.)

Subscribers, Take Notice

It has been necessary to increase the subscription clubbing price of Green's Fruit Grower, American Poultry Advocate and Gleanings in Bee Culture, one year, to $1.25, instead of $1.00 as heretofore.

THE A. I. ROOT CO., MEDINA, O.

Around the Office—Continued

apiary. Mel Pritchard's method of extermination differs from mine in that mine is absolutely odorless. By mixing one part of Rough on Rats with 10 parts of comb honey, and placing this in the apiary, I was able to get rid of the pests. I do not believe that skunks always eat the entire bee, but force out the contents of the abdomen. This fact led me to think that they were after the honey, and that theory was borne out by the readiness with which the poison mixture disappeared. Of course. it was necessary to place the poison at night and remove it before the bees were out in the morning, being sure to put it in the same spot each night."

* * *

There is a fellow mortal named Herbert Lyon at Mt. Kisco, N. Y., who has handed me something that I don't know just how to take—so I'll let you all take it. He writes: "Speaking of cats, you have no doubt often noticed a kitten playing with the old cat's tail, and how the youngster and onlookers enjoy it as the mother cat expresses her outraged dignity by frowns and tail wagging until, her patience exhausted, she lands a swat that knocks the nonsense out of the kitten's head for a while. Now, dear fellow, you have a lot of friends among the readers of Gleanings who would hate to see anything bad happen to you. So don't you think, considering the frivolous way you act sometimes toward the more dignified members of the editorial staff, that there is food for reflection in the above?" Gosh, yes, I guess so.

* * *

A good many friendly letters have reached poor old M.-A.-O. during the last month, consoling me for what I have to put up with from the Roots and other pesterers. It's mighty comfortin', and you one and all have my thanks — especially that preacher at Whitehouse Station, N. J. Just after getting this good man's letter I rushed right out to Uncle Amos I. Root and hollered: "Another minister on my side." Really and truly, he turned right around and started for Florida that minute. It was the day after election, and he was so tickled over Ohio's going dry (which it didn't—durn it) that he forgot to fire me out thru the back cover page before leaving for his winter

quarters. I wish Ohio would go dry 365 days in the year.

* * *

I just wish what happened to me out in my barn last night had a-happened to the whole editorial Root shebang and everybody else that is picking on to me for using just natural language when my deepest feelin's are roiled up. If it had, they might think different about it, and not keep pilin' on to me and threatenin' me and my job here. You see, it came on awful cold all of a sudden yesterday. I had dug the last of my potatoes the day before. It was warm that day, and a geewhilliken good afternoon for bass to bite. So I worked a sort of compromise with my waverin' disposition to labor, and instead of sorting over my potatoes and getting them safe into the cellar, as I suppose I orter have done, I just toted them in the wheelbarrow as far as the old barn and dumped them any way at all in one of the horse-stalls there. Then I sneaked my fishin' tackle out the back door of the house —some that dear old kitty overlooked when she left me—and I went and had a good afternoon on the creek with my neighbor Lutz. There wasn't any Roots around to pester, and when a fish would get on my hook and then get off again earlier than I calculated for him to get off, I just commented on it to him and myself and the creek and the woods around there just as I felt like. Give me a fishin' stream back of a big woods with no Roots around, and I'll show you 24-carat-fine freedom of the press and American public opinion as what Thomas Jefferson was always talking about and stickin' up for. Yes, siree, for full and unchoked freedom of expression of the real sincere kind give me a lonely fishin' creek just after the biggest one has got off.

I see I am side-stepping a little here by my discussion of freedom and liberty. But I had a good comfortin' time on the creek that warm afternoon two days ago, and was soothed considerably by it until that awful cold spell began surging up yesterday afternoon. It surged over me a good deal particularly, for I began thinking about those potatoes in the horse-stall and recollecting that the last time I had promised my poor dear long-suffering wife that I would nail some siding on to that stall side of the barn I had gone fishing again that time and left it till when winter coming nigher would make such labor

Around the Office—Continued

seem reasonabler and more timely to perform. So ventilation on that one side of my barn remained unchoked right up to last night and yet. I knew the Mrs. would want to converse along these lines at the suppertable last evening, so I stayed right over here to the office till almost plumb dark, wishing I knew of a world somewhere made up mostly of good fishin' creeks and where potatoes grow right in the bins in the cellar where they orter grow and already dug, also where barn siding grows natterel on barns and stays growed on. Then I sneaked home. It was a ornery feeling I had, but I braced up at the front door, rushed in as if I had done 'most all the business transacted on the western hemisphere that day, didn't take time to even look at my wife standing on the far side of the dining-room table all set for a heart-to-heart discussion of potatoes and barn siding. I just haughtily swept one doughnut and a pickled beet off the table and kept careerin' forward and onward and business-ward for the cellar stairway where I expected my lantern to meet me. It was there all right but the globe was gone. I recollected then that on another good fishin' day I had put off getting a new one till I got around to put on the barn siding. But I didn't falter or loiter around the house because of no lantern globe. No, siree. I set sail for the barn via downstairs and the outside cellar door. I felt that my dear wife was waiting somewhere along the usual-traveled kitchen route. So I didn't entourage that way. I went the other way. I preferred it very much. It was darker in the cellar than a black cat's whole body, but I didn't mind it under the circumstances. I was hankerin' for solitude just then so far as anybody I had ever married was concerned. But I did just then get to wishin' for the company and comfortin' assistance

(Rest of this article all censored)